UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF OHIO
WESTERN DIVISION

MELANIE BECKEMEYER,	][	CASE NO. 1:17-cv-00695
Plaintiff,	][	JUDGE BARRETT
v.	][	
GELCO CORPORATION, *etc.*,	][	**AFFIDAVIT OF JEREMY PORTER, PMP**
Defendant.	][	

I, Jeremy Porter, PMP, hereby certify and declare as follows:

1. My name is Jeremy Porter. I am over 18 years of age, of sound mind and body and fully competent to testify to the matters herein. I have never been convicted of a felony or crime involving moral turpitude. I have personal knowledge of the facts contained herein and all of the facts and statements contained herein are true and accurate and are made subject to the pains and penalty of perjury.

2. I am a certified Project Management Professional (PMP) and have been working in the environmental remediation field over 25 years and have an extensive understanding of the means and methods used to mitigate mold as well as an in-depth background and understanding of mold growth and the conditions causing such occurrences. My background is a unique blend of actual field experience in the application and removal of mold followed by extensive management of employees performing these tasks. I possess an in-depth knowledge of mold related exposure and

associated risks. My experience includes an extensive range of project types including residential, commercial, industrial, manufacturing, education, healthcare, fossil power and nuclear power.

3. My opinions are based on a review of documents, photos and videos taken in conjunction with a physical inspection of the subject vehicle. I have reviewed produced documents, vehicle service records, the vehicle operating manual, deposition transcripts, Mr. Rucker's Report, Dr. McMahon's report and information referenced in those reports.

4. The allegation of Plaintiff is that Defendant Gelco Corporation aka Element Fleet Management was negligent in failing to undertake mold remediation of the subject vehicle. I have been in numerous projects involving mold identification, assessment, and remediation, and I am able to identify presence of mold or other environmental conditions and determine through assessment whether, how, and if remediation is required.

5. Mold spores are naturally occurring and ubiquitous; they are found everywhere, both indoors and outdoors. Mold spores cannot be eliminated from indoor or outdoor environments. They are part of the natural environment and are perform the function of breaking down and digesting organic material such as wood, leaves, food and other types of organic matter. Mold spores will be found floating in the air and in settled dust; however, they will not grow if moisture and a food source is not present. Spores are disseminated via various methods; however, dissemination occurs primarily by becoming airborne and wind driven.

Mold is not typically a problem unless mold spores settle on a wet or damp organic food source and begin growing. As molds grow, they digest whatever they are growing on. Mold growth can damage buildings and furnishings; molds can rot wood, damage drywall, and eventually cause structural damage to buildings. It is important, therefore, to prevent mold from growing indoors. Molds will grow until the run out of food or water.

There are potential human health effects relating to mold. For health outcomes, there are no available exposure assessment methods that can provide useful information for individuals. This is primarily since each person's response to mold exposure is unique. There are no accepted national or international standards for mold investigation, evaluation or remediation.

A method for interpreting microbiological results is to compare the kinds and levels of organisms detected in different environments. Comparisons should include indoors versus outdoors, or complaint areas versus non-complaint areas. Specifically, in buildings without mold problems, the qualitative diversity (types) of airborne fungi indoors and outdoors should be similar.

When mold spores come in contact with sufficient amounts of both food and water, growth can occur rapidly, and remediation may become necessary. Mold colonies requiring remediation will typically be visible to the naked eye and will typically appear as fluffy, velvety or hairy spots and patches of various colors. The US EPA recommends that when visible mold is present it should be remediated. They identify areas less than 10 square feet as such that an untrained individual could perform using EPA guidelines, however they recommend considering hiring a professional for remediation of areas exceeding 10 square feet.

Remediation consists of one or a combination of the following:

- Method 1: Wet vacuum (in the case of porous materials, some mold spores/fragments will remain in the material but will not grow if the material is completely dried). Steam cleaning may be an alternative for carpets and some upholstered furniture.
- Method 2: Damp-wipe surfaces with plain water or with water and detergent solution (except wood -use wood floor cleaner); scrub as needed.

- Method 3: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.
- Method 4: Discard - remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

Bacteria like mold is ubiquitous, it is naturally occurring and found everywhere. Bacteria are vital in many stages of the nutrient cycle by recycling nutrients.

Bacterial endotoxins come from the external membrane of Bacteria, specifically gram-negative bacteria. These bacteria are characterized by their ubiquity in nature. They can be found in marine environments and on land, as well as, in the animals that we, as humans, use for food, and in the feces of animals. Although endotoxins are so named after their toxic properties, they also exhibit a spectrum of beneficial activities. They induce nonspecific resistance to different infectious agents and to their own toxic effects. Endotoxins naturally occur in the environment.

To the extent I observed Mr. Rucker's mold inspection and sampling procedures, they were conducted professionally and with reasonable care. His report accurately describes the condition relating to mold in the vehicle and is in accordance with generally accepted published guidelines.

There are notable exceptions that render Mr. Rucker's reports/opinions flawed and unreliable

Mr. Rucker conducted air sampling in the vehicle, while the results showed mold spore counts well below an established standard (1300 spores per M^3 found vs. the standard of 2500 spores per M^3) this would in no way be indicative of the conditions experienced by Mrs.

Beckemeyer in the vehicle about 2 years before the air sampling was conducted. The vehicle was partially dismantled and inspected with all doors open for several hours in a room with a vey large diameter ceiling fan running. The vehicle's doors and windows were then closed, and Mr. Rucker's air sampling was conducted during a test drive. Mr. Rucker was simply sampling the outside air that was now confined within the vehicle. His air sampling did not include air testing outside the building or a control sample outside the vehicle, which is standard practice.

Additionally, Mr. Rucker's sampling for endotoxins was not properly conducted. During the testing Mr. Rucker vacuumed the pattern template while sampling the passenger side under seat location. The template appears to have been previously used and was possibly a source of endotoxin contamination unrelated to the vehicle. Additionally, the sampling protocol, as established by the laboratory Mr. Rucker used for analysis, was not met. Results indicate the "Measurable dust was less than minimum required, entire filter used." The testing laboratory's applicable protocol requires "A sufficient amount of dust is required for analysis, preferably 0.1 g or more."

Mr. Rucker then used this flawed testing data that indicated the presence of elevated levels of endotoxins to speculate that Mrs. Beckemeyer would have been exposed to these endotoxins in a manner inconsistent with endotoxins and the state of operation of the vehicle during the warm months Mrs. Beckemeyer used it. He states:

ROUTE OF DRIVER EXPOSURE TO ENDOTOXIN DUST

1. Endotoxin located beneath passenger seat

2. Left rear supply vent located beneath passenger seat

3. Air Flow over carpet endotoxin reservoir creates airborne dust

4. Endotoxin dust moves freely in the cabin circulating into the occupant breathing zone

5. Endotoxin dust is filtered and recirculated within the cabin

There are several fundamental problems with this hypothesis. Endotoxins are not readily disbursed by air on their own. Also, an airborne substance behaving as suggested by Mr. Rucker, that could somehow escaped being captured in the micron filter that it would be going through multiple times per minute, would not land back in the same place it originated from, it would settle more evenly over the horizontal surfaces of the vehicle. The 4 endotoxin samples would be expected to be much closer in sampled value if being dispersed in the alleged manner.

Additionally, Mr. Rucker speculates that Mrs. Beckemeyer was exposed through the operation of systems that would not have been functioning during the period of time she used the vehicle. The vent Mr. Rucker identifies as providing the airflow that caused the endotoxin dust is not operational during vehicle cooling. Shown was a heat supply vent, heat is supplied low in the vehicle since it naturally rises. Cooling is supplied in the higher vents as cold air sinks.

This vehicle is non-typical in how it supplies cold air the rear seat occupants, this is accomplished by using a non-directional vent high in the upper center of the dash. The cold air is directed in a stream between the two front seats to the rear seats. This mode of operation was confirmed on a 2014 RAV4 at a local dealership. The diagram supplied by Mr. Rucker is not the correct diagram for the subject vehicle.

The overriding duty of an expert witness is to provide independent, impartial, and unbiased evidence to the court or tribunal.

- Mr. Rucker should have plainly stated that no elevated mold levels were found in the subject vehicle nor was there evidence that a mold problem existed in the past.
- Mr. Rucker should have identified the endotoxin samples did not meet the laboratory testing protocol.
- Mr. Rucker presented an inaccurate and implausible theory on how Mrs. Beckemeyer was exposed to endotoxins while using the vehicle.

For these reasons, Mr. Rucker's report and opinions are flawed and unreliable.

Dr. McMahon report is fundamentally flawed in even the most basic principles relating to his claimed expertise. He seems to lack even the most basic understating of the fundamental principles of environmental testing. His interpretation of Mr. Rucker's report is entirely inconsistent with the findings presented in that report.

He incorrectly interprets the notation "Control Blk" to mean samples were taken on the engine block of the vehicle and that these samples have somehow become a scientific control against which he can determine that other results are amplified. In reality, a control blank or field blank is a way to ensure the sampling media was not contaminated prior to use, this is a very basic principle.

He then claims that the AC condenser swab sampling found Aureobasidium which is "often found in HVACs with condensation problems". Condensers never have condensation problems; this is the heat transfer component located outside of the vehicle.

He incorrectly identifies spore traps as being used to sample the center console duct and under the passenger seat. These samples were tape lifts and not spore traps.

Dr. McMahon formed opinions based on information from a report he clearly does not understand. His interpretation of the report is not at all in accordance with the information presented in Mr. Rucker's findings.

Dr. McMahon correctly indicates that without water that mold cannot grow, however he fails to understand that Mrs. Beckemeyer has testified that she has never seen water in this vehicle for the entire period she was in possession of it, her sole reason for believing there was water damage comes for the note on the bill of lading.

Dr. McMahon incorrectly concludes that since Chaetomium (4 spores) found in the baseline air sample confirms significant water damage. He states "Chaetomium confirms there was significant water (saturation or near saturation) for a lengthy period of time (weeks to months).

In Mr. Rucker's report, there were no findings of amplified mold, mold growth, elevated spore counts or condensation problems. In fact, every mold sample was significantly below the Low Range of Mold Interpretation Guidance, Chubb owned subsidiary ESIS Risk Management Services Group (2009). The only exception was the cabin air filter, which when coupled with no mold being found in either of the two supply ducts tested as well as the AC duct downstream of the filter as tested by Mr. Rucker, it is proof positive that the micron filter is performing its intended function and capturing ambient mold spores and preventing them from reaching the breathing zone of the vehicle occupants.

The findings of Mr. Rucker's report relating to endotoxins were "Results. Ecostratum interprets endotoxin results collected from beneath the passenger side seat carpet to be elevated. Our judgement was aided by published guidelines and experience."

Dr. McMahon concludes that the presence of endotoxins is proof that the vehicle has been water damaged. Endotoxin levels do not confirm bacterial growth and water damage, studies indicate the clear majority of airborne outdoor endotoxin is carried by weed pollen and that the highest bacteria counts in vehicles are related to food spills.

He relies on the faulty theory of endotoxin exposure as presented by Mr. Rucker, had he taken the time to research the issue he would have come up with a different conclusion.

The overriding duty of an expert witness is to provide independent, impartial, and unbiased evidence to the court or tribunal.

- Dr. McMahon should have plainly stated that he did not understand Mr. Rucker's report and that he was not qualified to render an opinion on those matters.
- Dr. McMahon adopted Mr. Rucker faulty explanation on how Mrs. Beckemeyer was exposed to endotoxins while using the vehicle, without performing due diligence in determining its accuracy.
- Dr. McMahon should state that due to the ubiquitous nature of mold and bacteria that people are chronically exposed from a large number of sources throughout their lives.

For these reasons, Dr. McMahons report and opinions are flawed and unreliable.

Based on all available information, there is no evidence that the subject vehicle ever required mold remediation, including the period Mrs. Beckemeyer was in possession of the vehicle. Mrs. Beckemeyer testified she never saw any leak within the vehicle. No one ever reported visible mold in the vehicle, including both experts who performed an extremely thorough inspection that included substantial dismantlement of the interior of the vehicle. The vehicle was inspected prior to

delivery to Mrs. Beckemeyer by Tansky Sawmill Toyota on March 11, 2016 and during her possession by Performance Toyota with no visible mold reported. To the extent that there was naturally occurring mold in the vehicle, Gelco authorized and Performance Toyota replaced the micron cabin air filter, cleaned the filter box and ductwork as well as flushed the evaporator box and finally performed a complete detail of the vehicle, effectively performing preventative mold remediation to a standard that could only be accomplished by trained Toyota technicians with specialized training and equipment.

All opinions I have presented are to a scientific/engineering of certainty.

Attached hereto is a true and correct copy of my expert report dated November 2, 2018 and Supplement #1 to that report dated April 12, 2019 that is incorporated herein as if fully set forth at length.

FURTHER AFFIANT SAYETH NAUGHT.

JEREMY PORTER, PMP

SUBSCRIBED AND SWORN TO before this, the 12th day of April 2019.

NOTARY PUBLIC

CARL PRIEBE
Official Seal
Notary Public – State of Illinois
My Commission Expires Nov 8, 2021

EXPERT WITNESS REPORT

MELANIE BECKEMEYER

vs.

GELCO CORPORATION, ETC.

Case No. 1:17-CV-00695-MRB

Prepared by:

Jeremy Porter, PMP

16 Canyon Court

Yorkville, IL 60560

Report prepared for Ritzler, Coughlin & Paglia, Ltd.

Subject: Mold/ Bacteria growth in 2014 Toyota RAV4

VIN 2T3DFREV9EW127356

Table of Contents

INTRODUCTION

This report sets forth the opinions that I have formed regarding alleged mold and/ or bacteria growth in a 2014 Toyota RAV4 VIN 2T3DFREV9EW127356, as well as ambient air quality in the geographic areas Mrs. Beckemeyer lived and worked during 2016. My opinions are formed based on an inspection of the subject vehicle, historical air quality information and documents that were obtained in my capacity as an expert witness. Those documents are more particularly described later in this report.

I may find it appropriate to revise or supplement my opinions, analysis, and conclusions stated herein in the future.

My Curriculum Vitae is attached hereto as Appendix 5. I have not authored any publications. The cases in which I have testified as an expert witness are described in my Curriculum Vitae.

I am charging the following rates per hour for my work as an expert witness on this case:

$ 225 per hour for non-testifying work and travel

$ 275 per hour for deposition and court appearance

ASSIGNMENT

Determine to the extent possible, the cause and severity of alleged mold and/ or bacterial growth in the subject vehicle.

Determine to the extent possible, the relative mold and/ or bacterial exposure to Mrs. Beckemeyer.

Determine to the extent possible, the contribution of Gelco's action/s and/ or inaction/s had on mold/ bacterial growth.

Determine to the extent possible, other factors which may have caused or contributed to Mrs. Beckemeyer's alleged health issues.

OPINIONS RENDERED

OPINION #1: The actions or inactions of Gelco or their contractor Professional Automotive Relocation Service (PARS) did not lead to mold and/ or bacteria growth in the subject vehicle.

OPINION #2: There was not, nor has there ever been mold and/ or bacteria growth in the subject vehicle that would be considered out of the ordinary.

OPINION #3: Exposure to mold and/ or bacteria while in the subject vehicle was not the direct and proximate cause of the Mrs. Beckemeyer's illness.

OPINION #4: Mrs. Beckemeyer was exposed to less mold and/ or bacteria while operating the subject vehicle then she would have otherwise been exposed to outside of the vehicle.

OPINION #5: Vehicles are designed for minor water intrusion events by nature of their intended use.

OPINION #6: Mrs. Beckemeyer's choice of living and working locations has exposed her to higher than normal airborne pollution.

OPINION #7: Mrs. Beckemeyer's symptoms as reported by date corelate exactly with adverse air quality alerts in the locations she was living and traveling.

OPINION #8: Portions of Mr. Rucker's inspection report entitled Microbe & Endotoxin & Carbon Monoxide Gas Test Results are fundamentally flawed and inaccurate.

OPINION #9: Portions of Dr. McMahon's report from Whole World Health Care, PC are fundamentally flawed and inaccurate.

OPINION #10: Mrs. Beckemeyer's understanding of mold growth and mold remediation as allegedly explained to her is fundamentally flawed and inaccurate.

Opinion #11: Mrs. Beckemeyer was exposed to higher concentrations of mold via inhalation outside of the vehicle than inside of the vehicle.

BASIS FOR OPINIONS

OVERVIEW

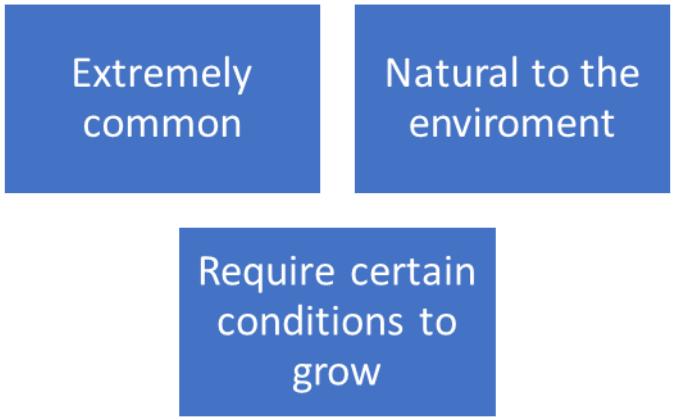
This cause of action relates to claims that Mrs. Breckmeyer was provided a vehicle from her employer that had a water leak and because of water intrusion that mold and/ or bacteria grew and exposure to these substances caused her to become ill.

The record reflects that at some point just prior to delivery of the vehicle, the passenger side window of the subject vehicle was left slightly open and rainwater entered the vehicle. This leak was noticed by PARS who had been contracted to store and deliver the vehicle. Said leak was notated on the bill of lading by PARS while the vehicle was in its custody. Prior to delivery it was discovered that the passenger side window was slightly open, and the child window lock feature was engaged which prevented the window for being rolled up entirely. PARS then disabled the child window lock feature, rolled up the window and observed the condition of the vehicle following a night of rain. There was no additional water intrusion observed and the interior of the vehicle was dry prior to delivery to Mrs. Beckemeyer. Mrs. Beckemeyer has testified that she never saw any water leaks in the vehicle for the duration of the period in which she had possession of it.

The vehicle assigned to Mrs. Beckemeyer was a 2014 Toyota RAV 4 limited. It was assigned to Breckmeyer for approximately 149 days from approximately May 4th, 2016 until September 30th, 2016. During this period of time the vehicle was driven 4307 miles.

Related Information

Mold



Molds are organisms that are found virtually everywhere, indoors and outdoors. They are part of the natural environment and play an important role by breaking down and digesting organic material, such as dead plants, leaves, etc. Also called fungi or mildew, molds are neither plants nor animals; they are part of the kingdom Fungi.

Mold spores are ubiquitous; they are found everywhere, both indoors and outdoors. Mold spores cannot be eliminated from indoor or outdoor environments. Mold spores will be found floating through the air and in settled dust; however, they will not grow if moisture and a food source is not present.

Mold is not usually a problem, unless mold spores land on a wet or damp organic food source and begin growing. As molds grow they digest whatever they are growing on. Unchecked mold growth can damage buildings and furnishings; molds can rot wood, damage drywall, and eventually cause structural damage to buildings. Mold can also cause cosmetic damage, such as stains, to furnishings. The potential human health effects of mold are also a concern. It is important, therefore, to prevent mold from growing indoors.

Source: Introduction to Mold and Mold Remediation for Environmental and Public Health Professionals by US EPA

Conditions required for mold growth

All four of the following conditions are required for mold growth to occur:

1. Mold Spores: These are naturally occurring in the environment inside and outside of buildings. There is no effective means of controlling the presence of mold spores in the environment.

2. Food Source: Any organic matter such as wood, paper, fiber, and others are suitable for mold growth.

3. Suitable Environment: Specific environmental factors suitable to mold growth such as temperature and light. These requirements vary by mold type. Conditions typically found in human occupied environments are conducive to mold growth.

4. Moisture: Mold requires a certain amount of moisture referred to as water activity to grow. Water activity refers to free water available for mold growth. For mold growth to occur, moisture must be freely available. Water activity above .7 is typically required for mold growth. Moisture can be in the form of free water or high humidity. Typically, relative humidity of 60% or more is required to support mold growth. Humans prefer a relative humidity below that required to support mold growth., optimally 40% to 50%. In typical residential and commercial construction, the only factor that can be reasonably controlled is moisture, making it of the upmost importance to preventing mold growth from occurring.

Mold growth detection methods

Visual inspection is by and large the primary way to determine if mold is present and growing. When all four of the conditions are met, molds will begin growing and form colonies that will typically appear as fluffy, velvety or hairy spots and patches of various colors.

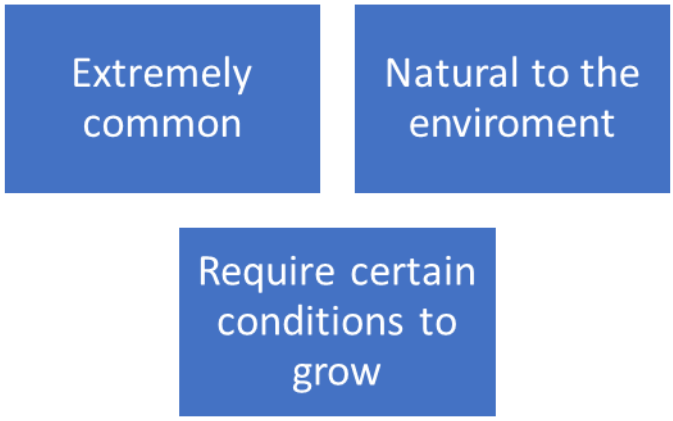
Smell, a damp musty odor typically is detected when mold is present and actively growing.

Sampling methods include bulk, swab, tape lift and air. These can be analyzed by microscopy or in some case growing viable mold from the sample.

Mold samples are used to detect small amounts of mold. Sampling is usually not required in most cases, if visible mold growth is present.

Source: US EPA

Bacteria



Bacteria like mold is ubiquitous, it is naturally occurring and found everywhere. There are typically 40 million bacterial cells in a gram of soil (about ¼ teaspoon) and a million bacterial cells in a milliliter (about 20 drops) of fresh water. There are approximately 5,000,000,000,000,000,000,000,000,000,000 bacteria on Earth, [1] forming a biomass which exceeds that of all plants and animals. [2] Bacteria are vital in many stages of the nutrient cycle by recycling nutrients such as the fixation of nitrogen from the atmosphere.

[1] Wiebe WJ (June 1998). "Prokaryotes: the unseen majority". Proceedings of the National Academy of Sciences of the United States of America. 95 (12): 6578–83. Bibcode:1998PNAS...95.6578W. doi:10.1073/pnas.95.12.6578. PMC 33863. PMID 9618454.
[2] Jump up^ C Michael Hogan. 2010. Bacteria. Encyclopedia of Earth. eds. Sidney Draggan and C.J Cleveland, National Council for Science and the Environment, Washington DC

Conditions required for bacteria growth

All four of the following conditions are required for bacteria growth to occur:

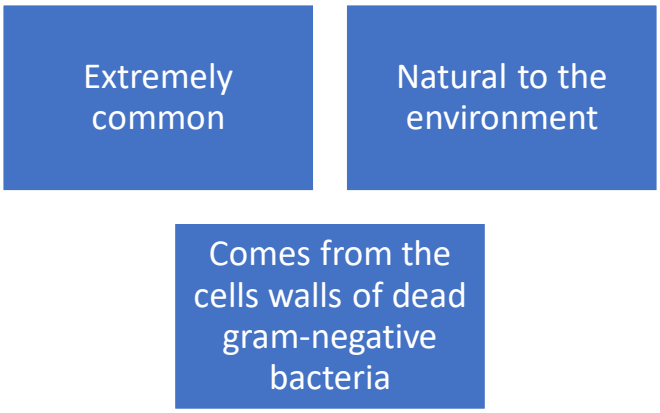
1. Bacteria: These are naturally occurring in the environment inside and outside of buildings. There is no effective means of controlling the presence of bacteria in the environment.

2. Food Source: Bacteria break down or decompose dead organisms, animal waste, and plant litter to obtain nutrients. Microbes don't just consume nature's waste, they recycle it. The process of decomposition releases chemicals such as carbon, nitrogen, and phosphorus that can be used by new plants and animals.

3. Suitable Environment: Environmental factors suitable for bacteria growth such as pH, oxygen availability, temperature and light. Conditions typically found in human occupied environments are conducive to bacteria growth.

4. Moisture: Bacteria requires a certain amount of moisture referred to as water activity to grow. Water activity refers to free water available for bacteria growth. For bacteria growth to occur, moisture must be freely available. Water activity above .91 is typically required for bacterial growth. Moisture can be in the form of free water or high humidity.

Endotoxins



Bacterial endotoxins come from the external membrane of Bacteria, specifically gram-negative bacteria. These bacteria are characterized by their ubiquity in nature. They can be found in marine environments and on land, as well as, in the animals that we, as humans, use for food, and in the feces of animals. Therefore, Gram-negative bacteria infections are very common. One of the myths that exist in the population regarding these infections is that they can be avoided after heating food. In actuality, the danger of contaminated food precisely lies in the fact that although the bacteria die, the lipopolysaccharides that constitute its cellular wall are released into the environment where they find themselves and the bacterial endotoxins present are resistant to heat.

Although endotoxins are so named after their toxic properties, they also exhibit a spectrum of beneficial activities. They induce nonspecific resistance to different infectious agents and to their own toxic effects.

Endotoxins naturally occur in the environment. A recent study finds 60% of airborne endotoxins are carried by pollen of a common weed found in Ohio as well as most of the U.S.

Studies suggests that the age of houses, cleaning, farm or rural living, flooring materials (the presence of carpets), number of occupants, the presence of dogs or cats indoors, and relative humidity were the strongest determinants for endotoxin loads in settled floor dust, while the presence of pets (especially dogs) were the strongest contributing factors for airborne endotoxin concentrations. There is also evidence of exposures related to contaminated pool water.

Indoor Air Quality

Indoor air quality typically refers to the quality of the air in a home, school, office, or other building environment. The potential impact of indoor air quality on human health nationally can be noteworthy for several reasons:

Americans, on average, spend approximately 90 percent of their time indoors,[1] where the concentrations of some pollutants are often 2 to 5 times higher than typical outdoor concentrations.[2]

People who are often most susceptible to the adverse effects of pollution (e.g., the very young, older adults, people with cardiovascular or respiratory disease) tend to spend even more time indoors.[3]

Indoor concentrations of some pollutants have increased in recent decades due to such factors as energy-efficient building construction (when it lacks sufficient mechanical ventilation to ensure adequate air exchange) and increased use of synthetic building materials, furnishings, personal care products, pesticides, and household cleaners. [3]

[1] U.S. Environmental Protection Agency. 1989. Report to Congress on indoor air quality: Volume 2. EPA/400/1-89/001C. Washington, DC.

[2] U.S. Environmental Protection Agency. 1987. The total exposure assessment methodology (TEAM) study: Summary and analysis. EPA/600/6-87/002a. Washington, DC.

[3] U.S. Environmental Protection Agency. 1997. Exposure factors handbook volume 3: Activity factors. EPA/600/P-95/002Fa. Washington, DC.

Outdoor Air Quality

Outdoor air pollution contains numerous substances of both natural (e.g., pollen, mold spores, dust) and anthropogenic (human-caused) origin. There is no effective means of controlling natural air pollution. Anthropogenic emissions can be decreased through regulatory and voluntary actions, leading to air quality improvements. [4]

[4] https://www.epa.gov/report-environment/outdoor-air-quality

Exposure Limits to Mold

For health outcomes, there are no available exposure assessment methods that can provide useful information for individuals. This is primarily due to the fact that each person's response to mold exposure is unique. There are no accepted national or international standards for mold investigation, evaluation or remediation.

A useful method for interpreting microbiological results is to compare the kinds and levels of organisms detected in different environments. Usual comparisons include indoors versus outdoors, or complaint areas versus non-complaint areas. Specifically, in buildings without mold problems, the qualitative diversity (types) of airborne fungi indoors and outdoors should be similar.

Differences between building construction and vehicle construction

A food source for both mold and bacteria is readily available in both typical residential and commercial building construction. Any organic materials such as wood, paper, certain types of insulation, drywall, plaster and certain coatings are all food sources for mold and bacteria.

The only way to limit mold grown in a building is to limit available moisture.

Vehicles however, are designed for minor water intrusion events. For example, getting into or out of the vehicle in a rain storm or with snow on one's shoes and even an accidental window or sunroof being left open and a rain storm occurs. Vehicles are designed and constructed primarily of inorganic materials, synthetic materials such as polypropylene, vinyl, and various plastics. A notable exception is leather in higher quality vehicles, this is an organic material and does support mold growth after being wet for an extended period of time.

In the case of vehicles, two factors can be reasonably controlled and not expected to be present in the vehicle. These being food sources and continuous moisture.

Photo is not of the subject vehicle.
Example of vehicular mold growth. The mold is growing on the organic leather of the vehicle, notice the carpet is not moldy as it is not a food source for the mold.
Source: www.icarusgolds.com/how-to-approach-vehicle-water-damage-and-mold.html

Photo is not of the subject vehicle.

Example of vehicular mold and bacterial growth. In this case milk was spilled which provided both the food and moisture source required over a long period of time.

Source: www.servprobedfordparkburbank.com/blog/post/40855/mold-removal-remediation/mold-in-a-car

Air Quality Illness Correlations, General

Mrs. Beckemeyer has testified to being in a sensitive group when it comes to air quality and allergies. When tested in 1990 she "Reacted to everything." and "Most of what I tested for I reacted to." It's hard to imagine a more problematic environment for someone with a predisposition to having issues with adverse air quality.

Residential Environment

Elevated exposure to both mold and bacteria is caused by having pets, having a swimming pool, having a heavily wooded backyard, being engaged in renovation of distressed properties, a.k.a. house flipping.

Work Environment

Mrs. Beckemeyer's reported work territory of all of OH, KY, IN (Indianapolis and south), Pittsburg, this area included 6 of the 25 most polluted cities in the United Stated in 2016.

25 U.S. Cities Most Polluted by Year-Round Particle Pollution (Annual PM2.5)

#8 Pittsburgh–New Castle–Weirton, PA—OH—WV
#10 Louisville/Jefferson County–Elizabethtown– Madison, KY—IN
#11 Cleveland–Akron–Canton, OH
#13 Indianapolis–Carmel-Muncie, IN
#14 Cincinnati–Wilmington–Maysville, OH—KY—IN
#25 Wheeling, WV—OH

RANKINGS

People at Risk In 25 U.S. Cities Most Polluted by Year-Round Particle Pollution (Annual $PM_{2.5}$)

2016 Rank[1]	Metropolitan Statistical Areas	Total Population[2]	Under 18[3]	65 and Over[3]	Pediatric Asthma[4,6]	Adult Asthma[5,6]	COPD[7]	CV Disease[8]	Diabetes[9]	Poverty[10]
1	Bakersfield, CA	874,589	257,512	86,198	22,811	47,274	27,545	39,611	58,509	206,604
2	Visalia-Porterville-Hanford, CA	608,467	186,159	61,302	16,490	32,302	18,893	27,286	39,992	160,479
3	Fresno-Madera, CA	1,120,522	321,538	127,627	28,482	61,434	37,066	54,190	78,465	293,929
4	Los Angeles-Long Beach, CA	18,550,288	4,419,138	2,287,192	391,452	1,093,121	670,009	981,745	1,425,473	3,174,300
5	El Centro, CA	179,091	51,111	21,523	4,527	9,863	6,046	8,897	12,791	40,162
6	Modesto-Merced, CA	798,350	225,241	92,260	19,952	44,214	26,914	39,399	57,132	160,041
6	San Jose-San Francisco-Oakland, CA	8,607,423	1,876,296	1,168,168	166,204	523,893	330,069	488,003	703,447	968,270
8	Pittsburgh-New Castle-Weirton, PA-OH-WV	2,653,781	512,313	489,155	55,262	210,546	154,349	218,588	249,655	331,578
9	Harrisburg-York-Lebanon, PA	1,239,677	271,569	204,056	29,398	95,249	66,506	94,211	108,812	129,647
10	Louisville/Jefferson County-Elizabethtown-Madison, KY-IN	1,498,593	348,103	213,057	35,700	134,900	132,472	132,990	138,376	213,396
11	Cleveland-Akron-Canton, OH	3,497,851	763,909	583,516	79,634	296,253	229,278	285,478	327,871	527,700
12	Philadelphia-Reading-Camden, PA-NJ-DE-MD	7,164,790	1,601,349	1,058,447	164,662	520,226	350,165	491,940	577,817	950,284
13	Indianapolis-Carmel-Muncie, IN	2,353,935	581,717	304,412	46,418	190,921	152,034	157,184	183,577	342,625
14	Cincinnati-Wilmington-Maysville, OH-KY-IN	2,208,450	532,957	302,529	55,681	186,179	148,558	168,576	191,278	304,362
14	Altoona, PA	125,955	25,897	24,360	2,803	9,732	7,144	10,387	11,828	18,367
16	Houston-The Woodlands, TX	6,686,318	1,793,010	668,355	126,257	322,667	251,119	362,663	515,515	1,014,700
16	San Luis Obispo-Paso Robles-Arroyo Grande, CA	279,083	50,639	48,977	4,486	17,852	11,905	18,081	25,139	38,048
16	Lancaster, PA	533,320	128,671	87,385	13,929	39,794	27,486	39,175	44,979	54,499
16	Johnstown-Somerset, PA	213,950	40,609	43,588	4,396	16,796	12,637	18,455	20,999	29,818
20	Detroit-Warren-Ann Arbor, MI	5,315,251	1,206,783	779,744	123,521	448,280	362,499	401,894	414,592	854,741
21	Erie-Meadville, PA	365,618	79,430	59,913	8,598	28,186	19,491	27,596	31,850	55,897
22	Birmingham-Hoover-Talladega, AL	1,317,269	305,150	195,649	40,271	96,700	102,850	119,939	129,794	227,444
23	Little Rock-North Little Rock, AR	902,443	215,116	126,381	19,823	60,518	60,538	83,498	83,957	138,677
23	Fairbanks, AK	99,357	23,924	7,913	2,205	5,999	2,938	3,875	4,764	9,011
23	Wheeling, WV-OH	145,205	28,098	27,933	2,779	12,814	13,249	15,016	15,880	22,863

Notes:

1. Cities are ranked using the highest Design Value for any county within that Combined or Metropolitan Statistical Area.
2. **Total Population** represents the at-risk populations for all counties within the respective Combined or Metropolitan Statistical Area.
3. Those under **18** and **65 and over** are vulnerable to $PM_{2.5}$ and are, therefore, included. They should not be used as population denominators for disease estimates.
4. **Pediatric asthma** estimates are for those under 18 years of age and represent the **estimated** number of people who had asthma in 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
5. **Adult asthma** estimates are for those 18 years and older and represent the **estimated** number of people who had asthma in 2014 based on state rates (BRFSS) applied to population estimates (U.S. Census).
6. Adding across rows does not produce valid estimates. Adding the disease categories (asthma, COPD, etc.) will double-count people who have been diagnosed with more than one disease.
7. **COPD** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
8. **CV disease** is cardiovascular disease and estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
9. **Diabetes** estimates are for adults 18 and over who have been diagnosed within their lifetime, based on state rates (BRFSS) applied to population estimates (U.S. Census).
10. **Poverty** estimates come from the U.S. Census Bureau and are for all ages.

Source: www.lung.org/assets/documents/healthy-air/state-of-the-air/sota-2016-full.pdf

Butler County Air Quality

The Southwest Ohio Air Quality Agency handles air quality monitoring, permitting, and enforcement for Butler, Clermont, Clinton, Hamilton, and Warren counties.

They state: More than 35 million people suffer from allergies in the United States. An allergy is an reaction to a very small amount of a specific substance, very often mold or pollen. People react differently to allergens, but common symptoms include runny nose, watery eyes, and sneezing. [1]

Tree and grass pollens are the most common Southwest Ohio allergens and can be almost impossible to escape. Oak, cedar, mulberry, maple, elm, poplar, box elder and grasses are the most prevalent sources of pollen in Southwest Ohio from late March through mid-July. Ragweed, the most allergenic plant of North America, blooms from August through October. Mold spores are also in full swing all summer and can even be found indoors year-round. [1]

[1] www.southwestohioair.org/local_air_quality/pollen_and_mold/historical_data

Air Quality Index Butler County, Ohio 2016

Each month in which Mrs. Beckemeyer was assigned this vehicle had one or more days where outdoor air quality in Butler County, OH was deemed unhealthy for sensitive groups.

AIR QUALITY INDEX

The Air Quality Index was created by the U.S. EPA to inform the public about local air quality conditions and how these conditions may impact their health. Seven days a week, the Agency's instruments measure the level of pollutants at sites throughout the four-county region. Real-time air quality data may be found on the **Agency's website.**

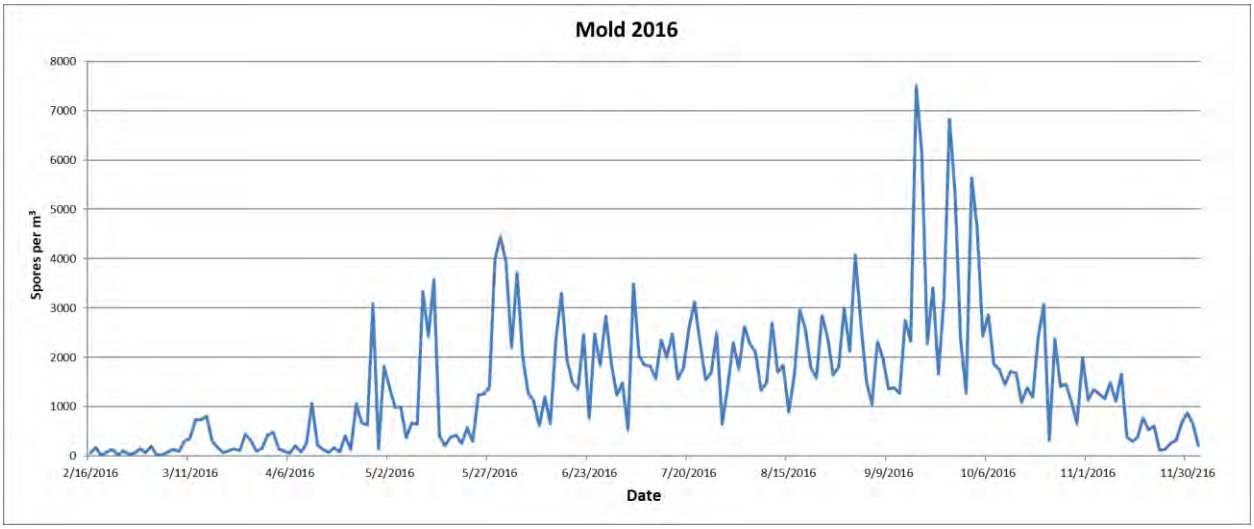
Air Quality Description	Index Level	# of Days	O_3	$PM_{2.5}$	SO_2	NO_2
Good	0 - 50	178	53	99	0	26
Moderate	51 - 100	170	62	106	0	2
Unhealthy for Sensitive Groups	101 - 150	18	18	0	0	0
Unhealthy	151 - 200	0	0	0	0	0
Very Unhealthy	201 - 300	0	0	0	0	0
Hazardous	301 - 500	0	0	0	0	0

Month	High	Low	Average
January	71	25	48
February	64	28	48
March	73	31	45
April	108	34	61
May	129	40	61
June	140	43	83
July	112	41	65
August	105	29	54
September	119	33	56
October	62	24	47
November	93	21	54
December	75	20	46

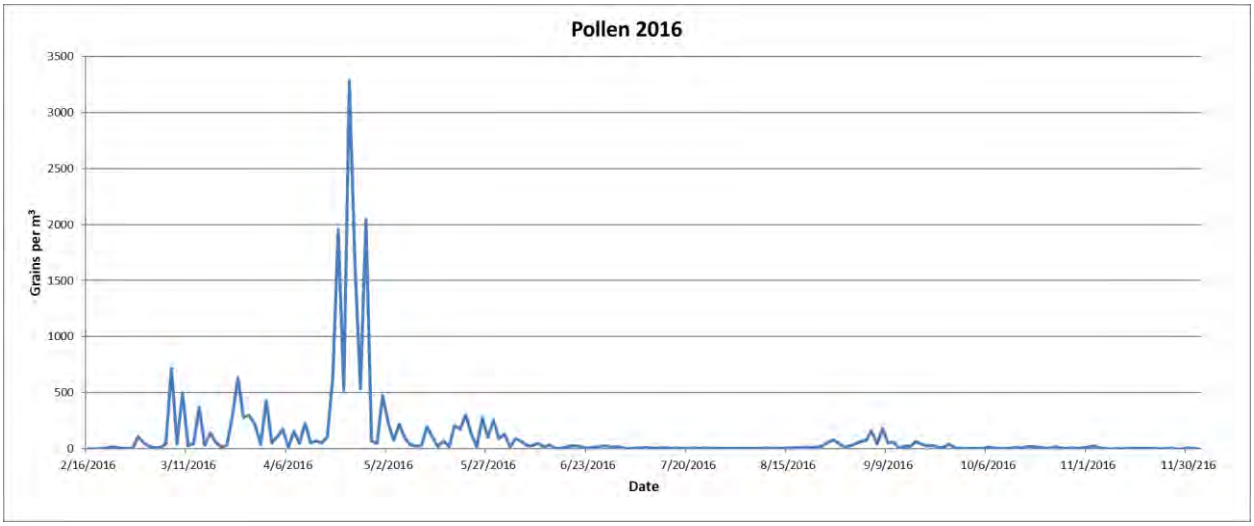
Source:
http://www.southwestohioair.org/UserFiles/Servers/Server_3788196/File/EnvironmentalServices/hcdoes/Annual%20Report/2016AnnualReport.pdf

Pollen & Mold Counts Butler County, Ohio 2016

The majority of the period that Mrs. Beckemeyer was assigned vehicle, ambient outdoor mold spore count was high. Towards the end of the period it was very high.



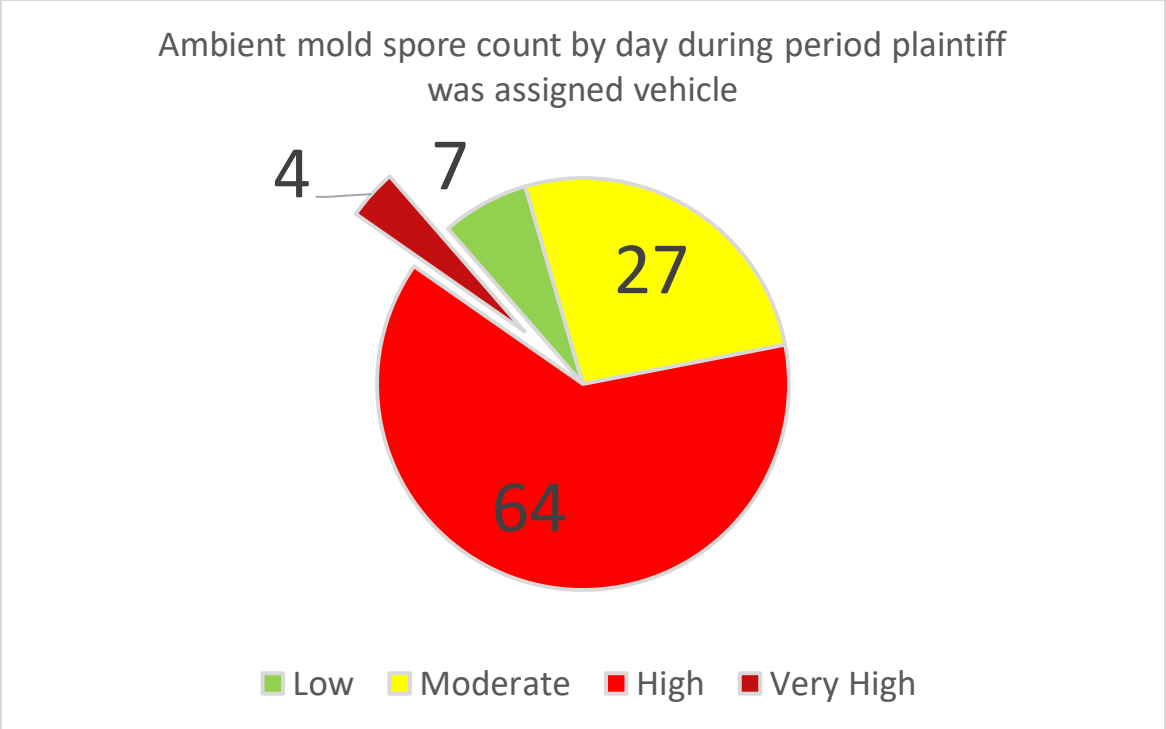
The majority of the month of May 2016 that Mrs. Beckemeyer was assigned vehicle, ambient outdoor pollen counts were high.

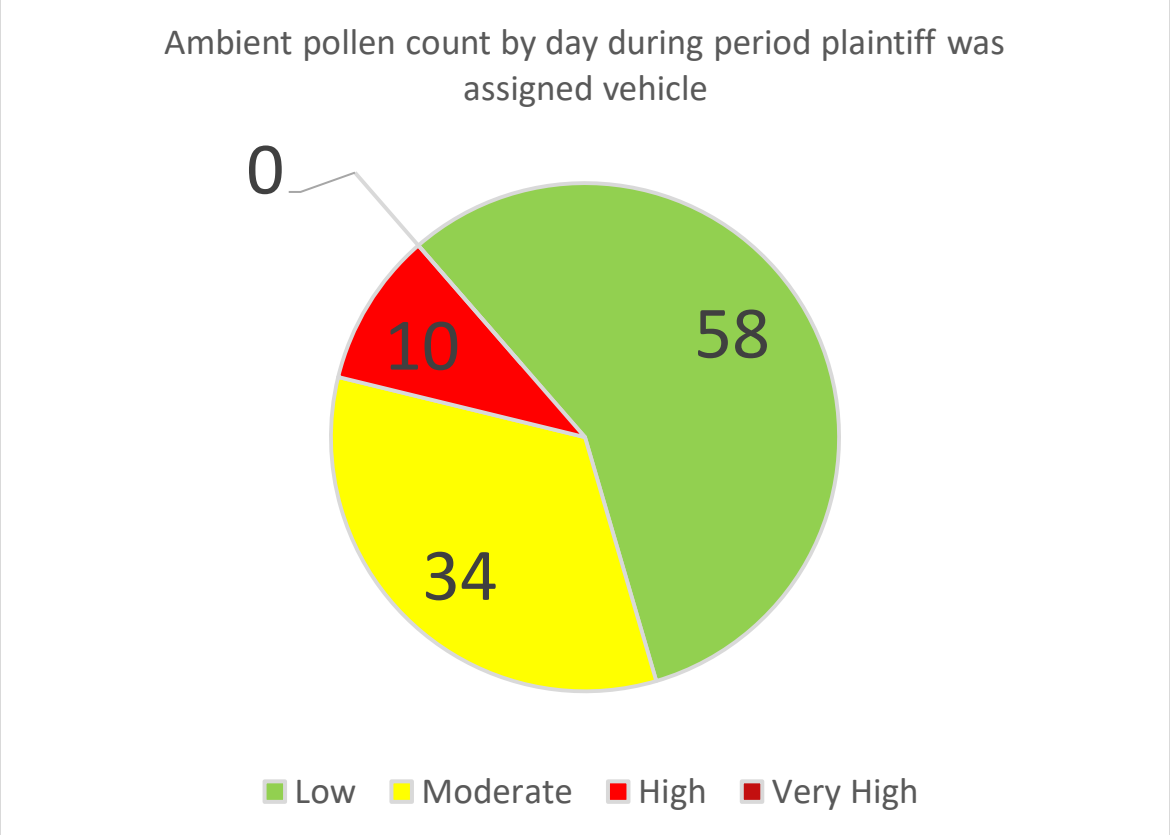


Pollen and Mold Descriptors

Descriptor	Pollen	Mold
LOW	0-20	0-500
MODERATE	21-100	501-1500
HIGH	101-1000	1501-5000
VERY HIGH	>1000	>5000

Source: www.southwestohioair.org/local_air_quality/pollen_and_mold/historical_data





Source: Daily average spore counts provided by Anna L. Kelley, Monitoring & Analysis Supervisor, Southwest Ohio Air Quality Agency

Air Quality Advisories Butler County, Ohio 2016

There were 11 air quality alerts in Butler County in the period that Mrs. Beckemeyer was assigned the vehicle.

Air Quality Advisories

AIR QUALITY ADVISORY

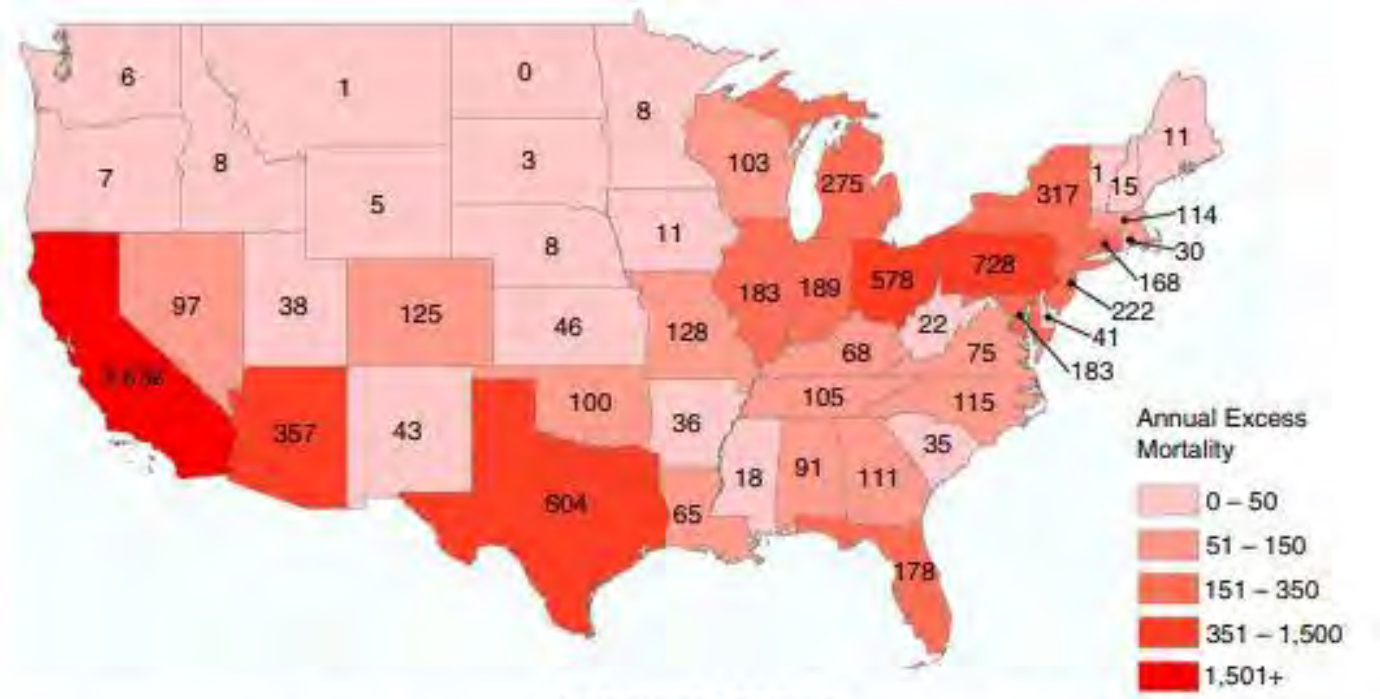
An air quality advisory is a public message that is issued the day before the Agency expects to see levels of air pollution that are unhealthy for sensitive groups such as children, seniors, and people with asthma, bronchitis, and other respiratory illnesses. The public is encouraged to take actions to reduce pollution on these days such as carpooling, refueling after 8 p.m., taking the bus, and avoid idling vehicles.

- When Agency staff forecast an AQI between 101 and 104, the Agency issues a cautionary statement on social media, recommending that sensitive groups limit outdoor exposure.
- When the AQI is forecasted at 105 or higher, the Agency issues an Air Quality Advisory with a press release and social media notifications.
- In 2016, eleven Air Quality Advisories were issued for the following dates: May 31; June 1; June 11; June 13; June 18 through June 20; June 25; June 26; July 11; July 20; July 21; and September 23.

Source: www.southwestohioair.org/UserFiles/Servers/Server_3788196/File/EnvironmentalServices/hcdoes/Annual%20Report/2016AnnualReport.pdf

State of Ohio

In 2016, Ohio ranked fourth in the nation for states with the highest level of health issues related to air pollution.



NATIONWIDE TOTALS

Ozone (O_3)			Fine Particulate Matter ($PM_{2.5}$)		
Health Category	*Estimate*	*95% CI*	*Health Category*	*Estimate*	*95% CI*
Mortality	6,408	(2,517 – 10,217)	Mortality	2,913	(1,980 – 3,858)
Morbidity	15,869	(–4,966 – 36,023)	Morbidity	5,543	(1,741 – 9,253)
Impacted Days	16,991,656	(4,651,415 – 28,781,244)	Impacted Days	2,348,094	(1,928,554 – 2,765,482)

Figure 3. Nationwide health impacts attributable to air pollution exceeding ATS recommendations for O_3 and $PM_{2.5}$. Annual excess health impacts are estimated as a function of outdoor pollution concentrations, size of the exposed population, and baseline health risks. States with high estimates of air pollution–related health impacts typically have a combination of high pollution concentrations and large populations. For state level estimates of excess mortality, excess morbidity, and impacted days, see Table 1. For county-level estimates, see Table E3.

Source: American Thoracic Society and Marron Institute Report
Estimated Excess Morbidity and Mortality Caused by Air Pollution above American Thoracic Society–Recommended Standards

Illness Air Quality Correlations, Specific

Nothing less than remarkable correlations exist between Mrs. Beckemeyers reported illness and outdoor air quality in locations she was in or traveling to.

June 20, 2016

Mrs. Beckemeyer claims this was the first time she drove the vehicle and reported becoming ill.

! This is the 3rd day of an air quality advisory for Butler County, OH. The only multi-day advisory in all of 2016.

! Ambient mold spore counts in Butler County almost reach the high threshold (1500 per M^3) with a spore count of 1,489 per M^3.

September 19, 2016

Mrs. Beckemeyer drove to Indianapolis, reports illness.

! Ambient mold spore counts in Butler County reach the very high threshold with a spore count of 7,507 per M^3. The highest mold spore count of 2016.

! This is also day 1 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

September 20, 2016

! Ambient mold spore counts in Butler County reach the very high threshold with a spore count of 6,131 per M^3. The 3rd highest mold spore count of 2016.

! This is day 2 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

September 21, 2016

Mrs. Beckemeyer drove to Indianapolis, reports severe illness. This is day 3 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

! Ambient mold spore counts in Butler County reach the high threshold with a spore count of 2,283 per M^3.

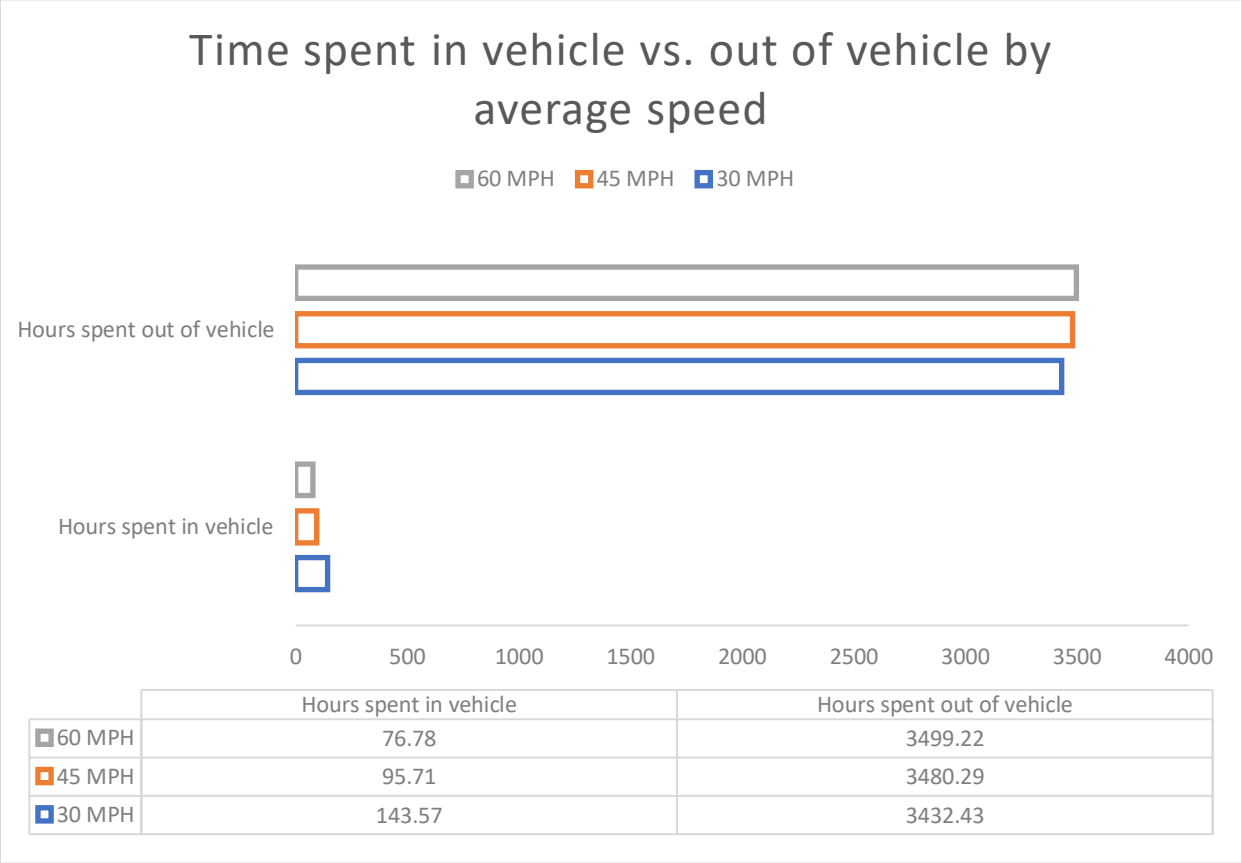
October 24, 2016

Mrs. Bekemeyer claims she drove the subject RAV4 and experienced the same symptoms, when in fact the vehicle was no longer in her possession at this time, it had been sold one month earlier at auction. It is noteworthy that she is now in a different vehicle and still experiencing the same symptoms, this indicates the exposure is environmental in nature not vehicle related.

Source: https://calendar.in.gov/site/idem/. Spore counts provided by Anna L. Kelley, Monitoring & Analysis Supervisor, Southwest Ohio Air Quality Agency

Vehicle assignment

The Vehicle assigned to Mrs. Beckemeyer was a 2014 Toyota RAV 4 limited. It was assigned to Breckmeyer for approximately 149 days from approximately May 4th, 2016 until it was sold at auction on September 30th, 2016. During this period of time the vehicle was driven 4307 miles.

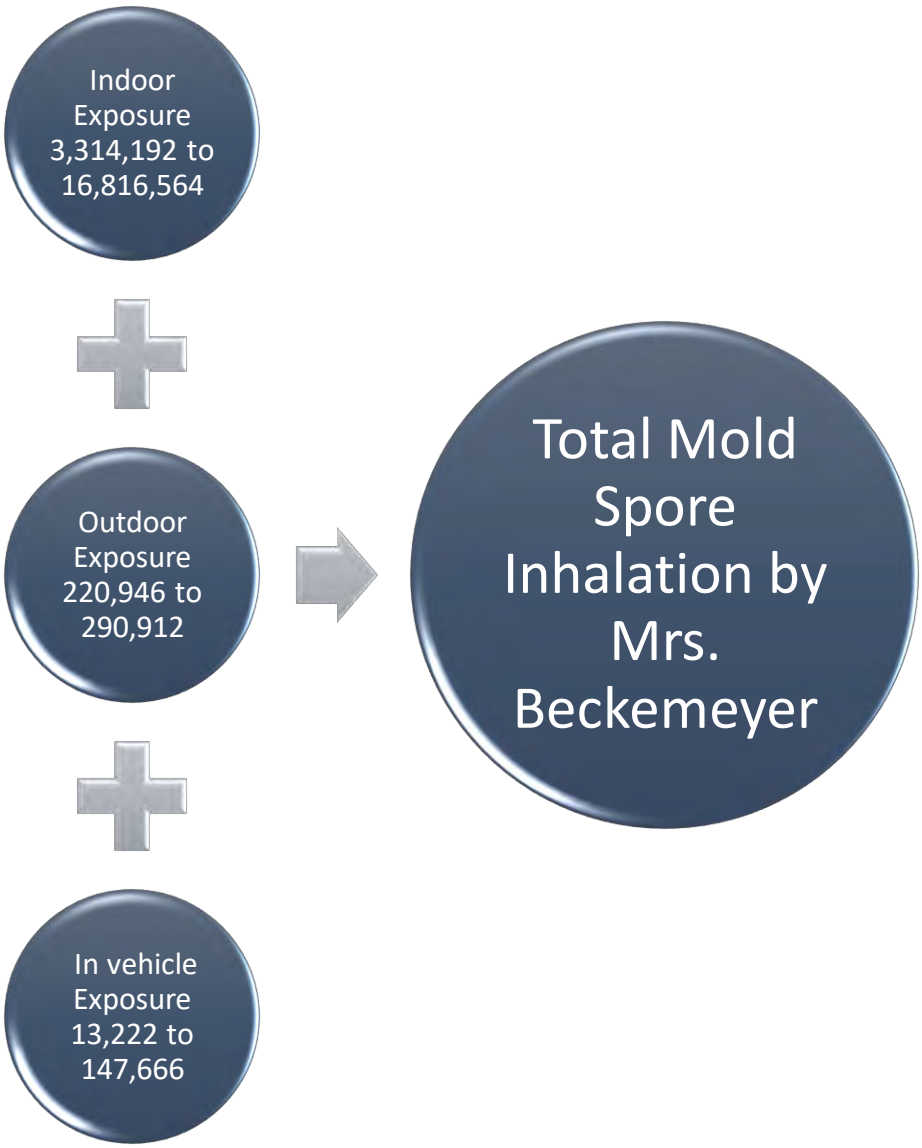


	Hours spent in vehicle	Hours spent out of vehicle
60 MPH	76.78	3499.22
45 MPH	95.71	3480.29
30 MPH	143.57	3432.43

Average Speed	Hours spent in vehicle	Total hours in assigned period	Percentage of time spent in vehicle	Percentage of time spent outside of vehicle
30 MPH	143.57	3576	4.01 %	95.99 %
45 MPH	95.71	3576	2.68 %	97.32 %
60 MPH	76.78	3576	2.15 %	97.85 %

Mold Spore Exposure to Mrs. Breckmeyer

Based on detailed mold spore counts conducted in Butler county we can determine the types and general quantities Mrs. Breckmeyer would have been exposed to during the period she was assigned the vehicle.

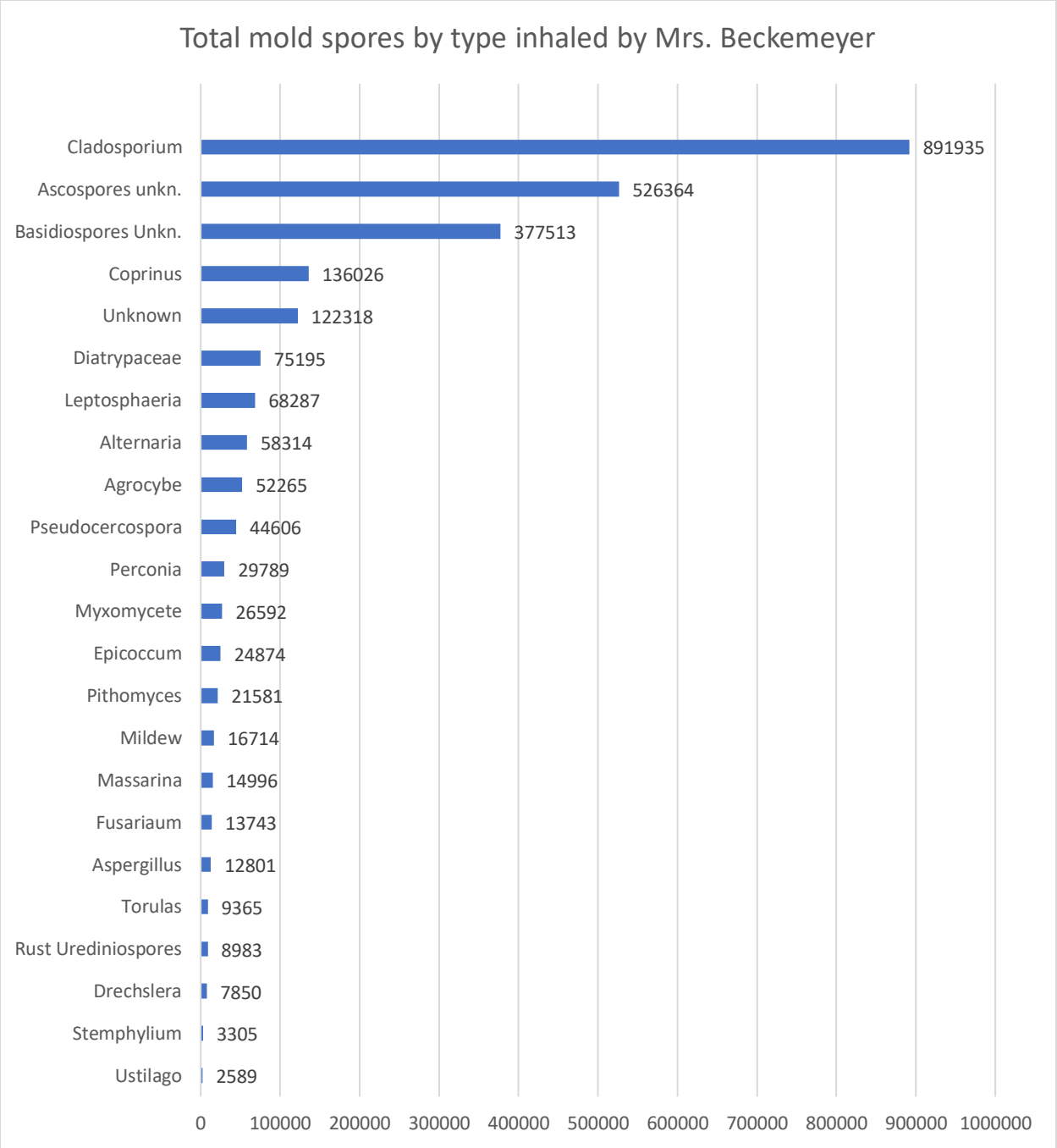


Study adjusted exposure rates to Mrs. Beckemeyer

		Outside	In Vehicle	Inside [2]	Outside spore inhalation	In vehicle spore inhalation	Inside spore Inhalation	Total Spore Inhalation	Out of vehicle exposure multiple
	3,682,435 [1]	100%						3,682,435 [1]	
Vehicle Speed	30 MPH Average	6.00%	4.01%	90.00%	220,946	147,666	3,314,192	3,682,803	24.94
	45 MPH Average	7.30%	2.68%	90.00%	268,818	98,689	3,314,192	3,681,699	37.31
	60 MPH Average	7.90%	2.15%	90.00%	290,912	79,172	3,314,192	3,684,276	46.53
						Reduced per study [3]	Increased per study, Low range [4]		
Vehicle Speed	30 MPH Average	6.00%	4.01%	90.00%	220,946	24,660	6,628,383	6,873,989	278.75
	45 MPH Average	7.30%	2.68%	90.00%	268,818	16,481	6,628,383	6,913,682	419.49
	60 MPH Average	7.90%	2.15%	90.00%	290,912	13,222	6,628,383	6,932,517	524.33
						Reduced per study [3]	Increased per study, High range[5]		
Vehicle Speed	30 MPH Average	6.00%	4.01%	90.00%	220,946	24,660	16,570,958	16,816,564	681.93
	45 MPH Average	7.30%	2.68%	90.00%	268,818	16,481	16,570,958	16,856,256	1022.76
	60 MPH Average	7.90%	2.15%	90.00%	290,912	13,222	16,570,958	16,875,092	1276.31

Mold spores available for inhalation are multiplied by in vehicle use based on a 30 MPH average, a 45 MPH Average and a 60 MPH average. Adjustments are made based on the following information and research.

[1] Mold count is increased to account for 46 days tests were not conducted in the 149-day period due to weekends and holidays.
[2] Indoor time percentage based on 90% per U.S. Environmental Protection Agency. 1989. Report to Congress on indoor air quality: Volume 2. EPA/400/1-89/001C. Washington, DC.
[3] In vehicle spore count is reduced by 83.3% consistent with the findings of Vonberg et al., The microbiological quality of air improves when using air conditioning systems in cars BMC Infectious Diseases 2010, 10:146
[4] Inside mold concentrations increased by study low range of 2 times consistent with the findings of U.S. Environmental Protection Agency. 1987. The total exposure assessment methodology (TEAM) study: Summary and analysis. EPA/600/6-87/002a. Washington, DC.
[5] Inside mold concentrations increased by study high range of 5 times consistent with the findings of U.S. Environmental Protection Agency. 1987. The total exposure assessment methodology (TEAM) study: Summary and analysis. EPA/600/6-87/002a. Washington, DC



Method of calculation: The data is the actual ambient mold exposure via inhalation to a 40.1 to <70.1-year-old female of normal weight with a daily inhalation rate of 11.93 M^3 in Butler County, OH from May 4, 2016 to September 30, 2016. No adjustments have been made for indoor increases or in vehicle decreases. Data is based on daily average spore counts provided by Anna L. Kelley, Monitoring & Analysis Supervisor, Southwest Ohio Air Quality Agency. Inhalation rate taken from table 6.6 of Exposure Factors Handbook September 2011

Actions of Gelco Corporation

A review of information indicates Gelco acted in good faith and was available and responsive to Mrs. Beckemeyer's requests.

The following are a summary of actions taken in relation to the vehicle by date.

March 11, 2016

Vehicle serviced at Tansky Sawmill Toyota Dealership, they replaced the GPS/ radio unit, performed a multi-point vehicle inspection and check the drivers side floor mats for interference.

April 29, 2016

Vehicle assigned to Mrs. Beckemeyer.

Unknown dates between April 29, 2016 and May 4, 2016

PARS notice the water leak and notates this on the bill of lading. Vehicle is inspected, and the leak is determined to have been caused by the passenger side window being slightly open. Window is closed, and a subsequent inspection is conducted after being out overnight in the rain, and it is determined the leak has been resolved and the vehicle is dry.

May 4, 2016

Mrs. Beckemeyer is notified of vehicle delivery, she indicates vehicle model is beneath her privilege. States she is Management and would like a Toyota Highlander. Gelco contacts Mrs. Beckemeyer's employer and they indicate they have already discussed this with her and confirm this is the correct vehicle model for her position. Gelco emails her the result of their inquiry. The vehicle picked up from PARS Storage Columbus, OH. The bill of lading document states vehicle leaks water by passenger sun visor.

May 6, 2016

Vehicle is delivered to Mrs. Beckemeyer and she reads there was a water leak on paperwork. The bill of lading the leak notation had been given to the driver and he was disinclined to line out the notation as they were not aware that this condition had been remedied. Mrs. Beckemeyer inquires why vehicle was sent with a leak, Gelco at the time was unaware of PARs actions relating to the leak. Additionally, she indicates the brakes are making noise and it takes a long tome to stop. She requests a rental vehicle. Repairs and rental vehicle approved.

May 9, 2016

Mrs. Breckmeyer calls back to again discuss the leak notation on the bill of lading. Repair work is scheduled for May 11, 2016 at a dealership and a rental vehicle is coordinated.

May 11, 2016

Mrs. Beckemeyer fails to bring in the vehicle for the scheduled service or pick up the authorized rental vehicle.

Mrs. Beckemeyer has failed to meet her obligation to mitigate at this point.

May 17, 2016

Mrs. Beckemeyer calls in and would like to reschedule the missed appointment and rental for this day. Gelco tries but is unable to obtain a rental from either Enterprise or Hertz on short notice and calls back to advise Mrs. Breckmeyer. Additional actions to be taken by either party are not specified.

June 23, 2016

Mrs. Beckemeyer calls in and would again like to reschedule the missed appointment and rental for this day. Gelco tries but is unable to obtain a rental from Enterprise and calls back to advise Mrs. Breckmeyer. Gelco indicates the will keep trying to obtain a rental and Mrs. Breckmeyer indicates she will call back later that day. Mrs. Beckemeyer instead takes the vehicle to the Performance Toyota Dealership and arrives without an appointment. It is unclear whether a rental was provided.

Mrs. Beckemeyer resumes her obligation to mitigate at this point.

Mrs. Beckemeyer reports the leak, the brakes and noises coming from the vehicle in the hood area and back of the vehicle. There are discussions between Gelco and the dealership and Gelco authorizes the repairs.

The dealership replaces the rear brake pads, machines the rear rotors, performs an oil change, washes the car, checks the driver's side floor mats for interference, performs a comprehensive vehicle inspection, replace engine air filter, flush brake system, and cleaned the throttle body. Conditions of complaints from noise conditions could not be duplicated and no work was done.

Claim related services performed were flush the evaporator and clean the HVAC ductwork.

Gelco also authorized a complete detail of the vehicle through Toyota but this as performed by an offsite vendor.

*The Gelco record indicates "washer line that runs thru roof has been chewed, replace, washer valve and 2 rubber tube mouse damage", however this does not appear to have been done according to the dealership service records. This note probably relates to a discussion on what could potentially be causing the roof leak. This assumption is based in on the vehicle inspection, no mouse or water damage was observed. (See inspection details.) The Toyota Dealership services records. (See service records.) Mrs. Beckemeyer's testimony that she never observed any leaks for the entire duration of vehicle use.

July 9, 2016

Mrs. Breckmeyer picks up vehicle from the Toyota dealership

July 28, 2016

Mrs. Beckemeyer calls and claims mold is coming back. Requests vehicle detail. Vehicle detail approved but Mrs. Beckemeyer did not take the vehicle to have the service performed.

Mrs. Beckemeyer has failed to meet her obligation to mitigate at this point.

August 17, 2016

Mrs. Beckemeyer calls claiming the vehicle is hopping over bumps, unsafe to drive. Replacement of all 4 tires is authorized but Mrs. Beckemeyer did not take the vehicle to have the service performed.

September 23, 2016

Mrs. Beckemeyer calls claiming mold is again in the A/C system and requests a rental. Rental vehicle is provided.

September 30, 2016

Vehicle sold at auction $18,500, $95 of reconditioning. Good condition.

December 5, 2016

Mrs. Beckemeyer requests PARS phone number. Number is provided.

December 6, 2016

Mrs. Beckemeyer calls PARS claiming she needs Bill of Lading for Tax Purposes. Pars provides a copy of the bill of lading.

January 20, 2017

Last day of rental vehicle use.

Gelco approved each and every request for service Mrs. Beckemeyer made for the entire duration she had the vehicle. She frequently chose not to have the approved services performed. The one and only request Gelco denied was to upgrade the vehicle provided to a Toyota Highlander, however this denial was done at the direction and consistent with the policy of her employer.

Mr. Rucker's Report

Mold

To the extent I observed Mr. Rucker's mold inspection and sampling procedures, they were conducted professionally and with reasonable care. His report accurately describes the condition relating to mold in the vehicle and is in accordance with generally accepted published guidelines.

Mr. Rucker found similar types and concentrations of common mold spores from the sampling that he separately conducted. These types and concentrations are of those that would naturally occur in the ambient environment. Our respective findings are mold was not at elevated levels in the RAV4. See appendix 6 for more information on these mold types.

Similar Findings	Unique to	Unique to
Mr. Porter's Report	Mr. Rucker's Report	Mr. Porter's Report
Mr. Rucker's Report		
Mold	**Mold**	**Mold**
Alternaria	Acremonium	Aspergillus
Alternaria	Aureobasidium	Tetraploa
Ascospore	Chaetomium	
Ascospores	Epicoccum	
Basidiomycetes	Hyphal fragments	
Basidiospore	Pithomyces	
Basidiospores	Rhodotorula	
Cladosporium	**Bacteria**	
Cladosporium	Endotoxin	
Penicillium	**Other**	
Penicillium	Background debris	
Myxomycetes	Pollen	
Smuts, Periconia, Myxomycetes	Skin cells	
Smuts/Myxomycetes		

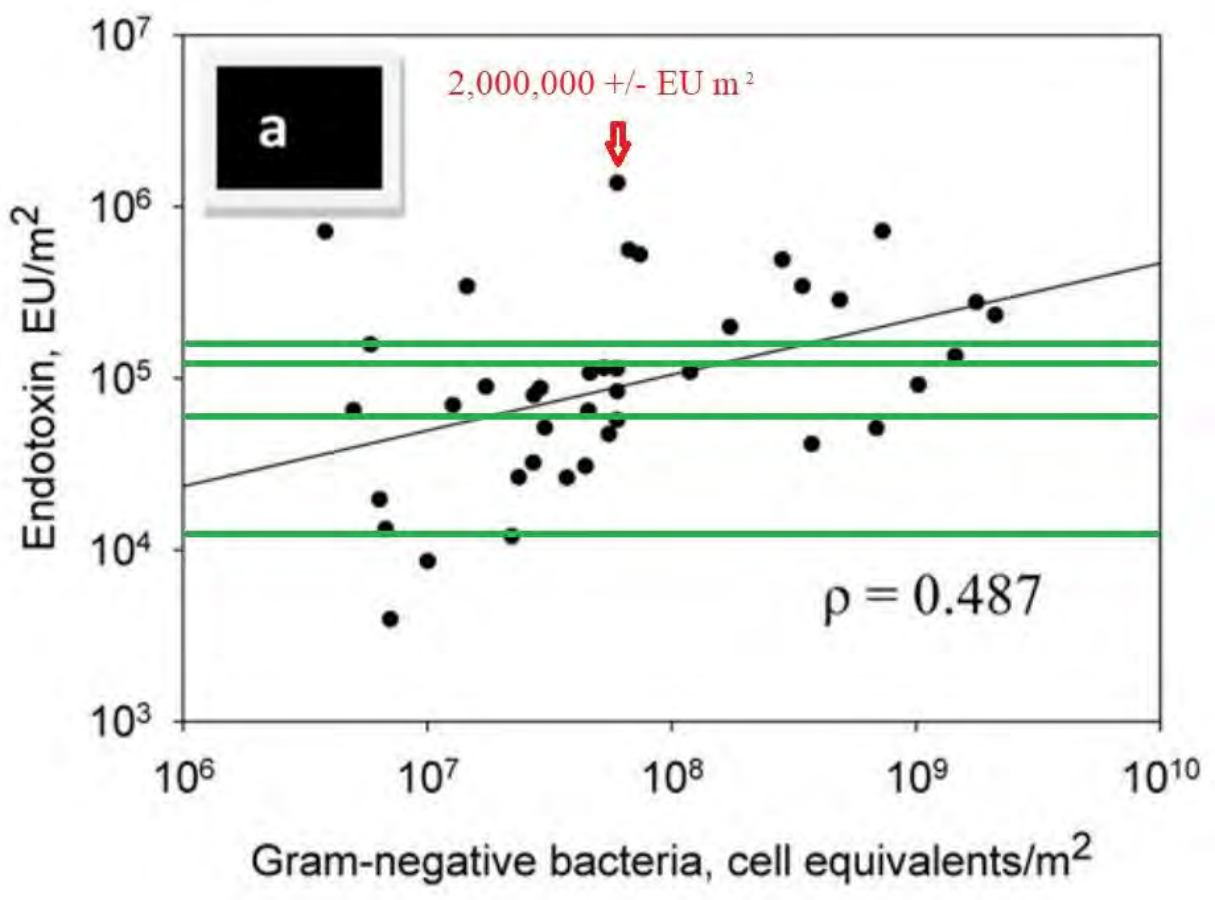
Endotoxins

Mr. Rucker's report indicates that 2 of the 4 samples he took have elevated endotoxin levels and that there was an "endotoxin reservoir" underneath the passenger seat of the subject vehicle. I can neither confirm nor deny this as I did not conduct endotoxin testing. There are however logical conclusions that can be made.

Endotoxin exposure limits

There are no exposure limits for endotoxins. The study relied upon by Mr. Rucker is simply geometric mean of sampling data from several reports.

Using the same methodology of the study, the geometric mean (GM) of the sampling in the RAV4, the threshold Mr. Rucker used was not met. Results were18,900 EU M^2, 204,400 EU M^2, 81,600 EU M^2, 285,700 EU M^2 respectively. The GM is 97,417 EU $M^{2.}$ (GM, Geometric mean is a measure of central tendency.) This is perhaps best shown visually in the graph that follows.



Source: Adhikari, A., Kettlesona, E.M., Vesper, S., Kumar, S., Popham, D.L., Schaffer, C., Indugula, R., Chatterjee, K., Allama, K.K., Grinshpun, S.A., Reponen, T., 2014. Dustborne and airborne Gram-positive and Gram-negative bacteria in high versus low ERMI homes. (All data in red and green was added.)

Mr. Rucker's sample results shown in green over the data used to calculate the 107,000 EU M^2 high level. The highest study result was approximately 2,000,000 EU M^2 or 7 times the highest vehicle result. The lowest study result was approximately 5,000 EU M^2 or 4 times the lowest vehicle result.

Data show 42% of the study sample results were higher than the highest result in the vehicle and 10% of the study samples were lower than the lowest vehicle result.

The GM of vehicle results were 9% lower than the GM of study results. The vehicle results and the study results are essentially the same.

Laboratory sampling results

The sampling protocol, as established by the laboratory Mr. Rucker used for endotoxin analysis, was not met. Results indicate the "Measurable dust was less than minimum required, entire filter used."

EMLab P&K's applicable protocol requires "A sufficient amount of dust is required for analysis, preferably 0.1 g or more."

Source: www.emlab.com/resources/sampling-guides/bacteria-endotoxin-sampling/ (emphasis added)

Essentially, the vehicle was so clean that even after even after vacuuming a 10 cm x 10 cm (approximately 4 inch by 4inch) square for five minutes, Not even 0.1 grams dust was not obtained in any of the 4 samples and the laboratory had to resort to reading the filter media instead of the dust, which is inconsistent with their test protocol. This also caused dust measurements to not be reported and instead under measurement it states "1 Sample".

Mold and Bacteria in automobiles

Multiple studies have determined that it would not be unusual to find allergens of microbial and nonmicrobial origin inside virtually every family car considering its normal use patterns. These studies are described more fully under the research section below.

The results in the RAV4 are surprisingly low considering a study found overall bacteria numbers ranged from <10 to 800,000 CFU/ per square inch. Mr. Rucker's results are based on a square meter, which is 1550 square inches. To simplify, the study found 15,500 to 1.24 Billion bacteria colony forming units per M^2. The radio knob had the least amount of bacteria and food spills sampled had the highest number of bacteria. This suggests that bacteria grow in food spills in the car.

Source: Germs in Your Car Driving You Crazy? By Charles P. Gerba, Ph.D. and Sheri L. Maxwell B.S.

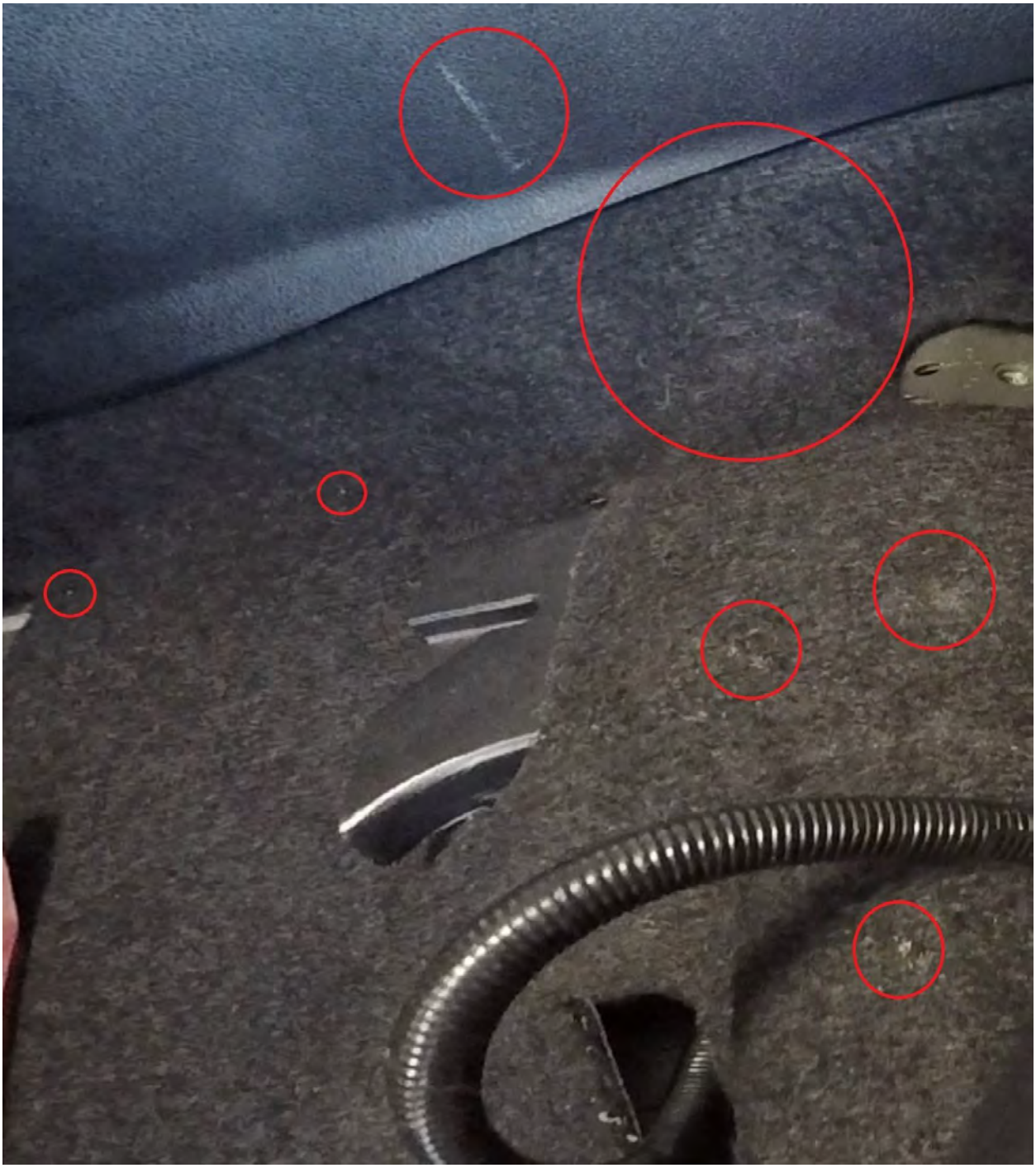


Photo of evidence of spilled food and beverages as well as particles of dust. The beverage drip on the top of the photo is directly below the cup holder and in close proximity to the endotoxin sampling location. This spill would normally be hidden when the seat is installed in the vehicle.

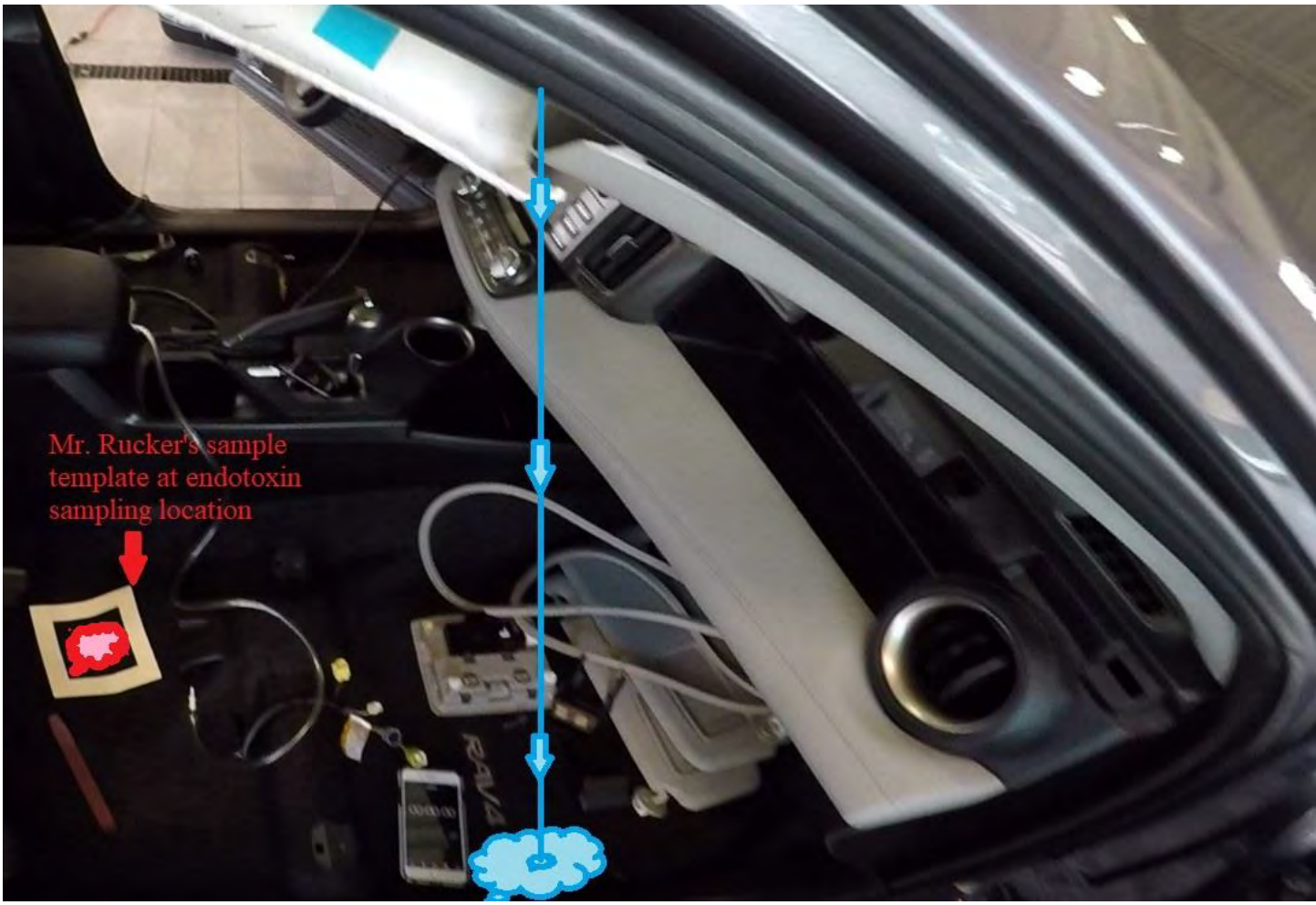
Vehicle Detailing

Assuming that this endotoxin reservoir did exist as the time of inspection and sampling, it is very unlikely that this particular contamination existed at the time the Mrs. Beckemeyer was using the vehicle. The inspection and testing was conducted over 21 months after vehicle use was discontinued by the Mrs. Beckemeyer. The record indicates the vehicle was detailed (thoroughly cleaned) on at least 3 occasions, July 9, 2016, prior to sale at auction on September 30, 2016 and in preparation for sale by Bob Rohrman Subaru.

Photo of card from detail shop found in the vehicle.

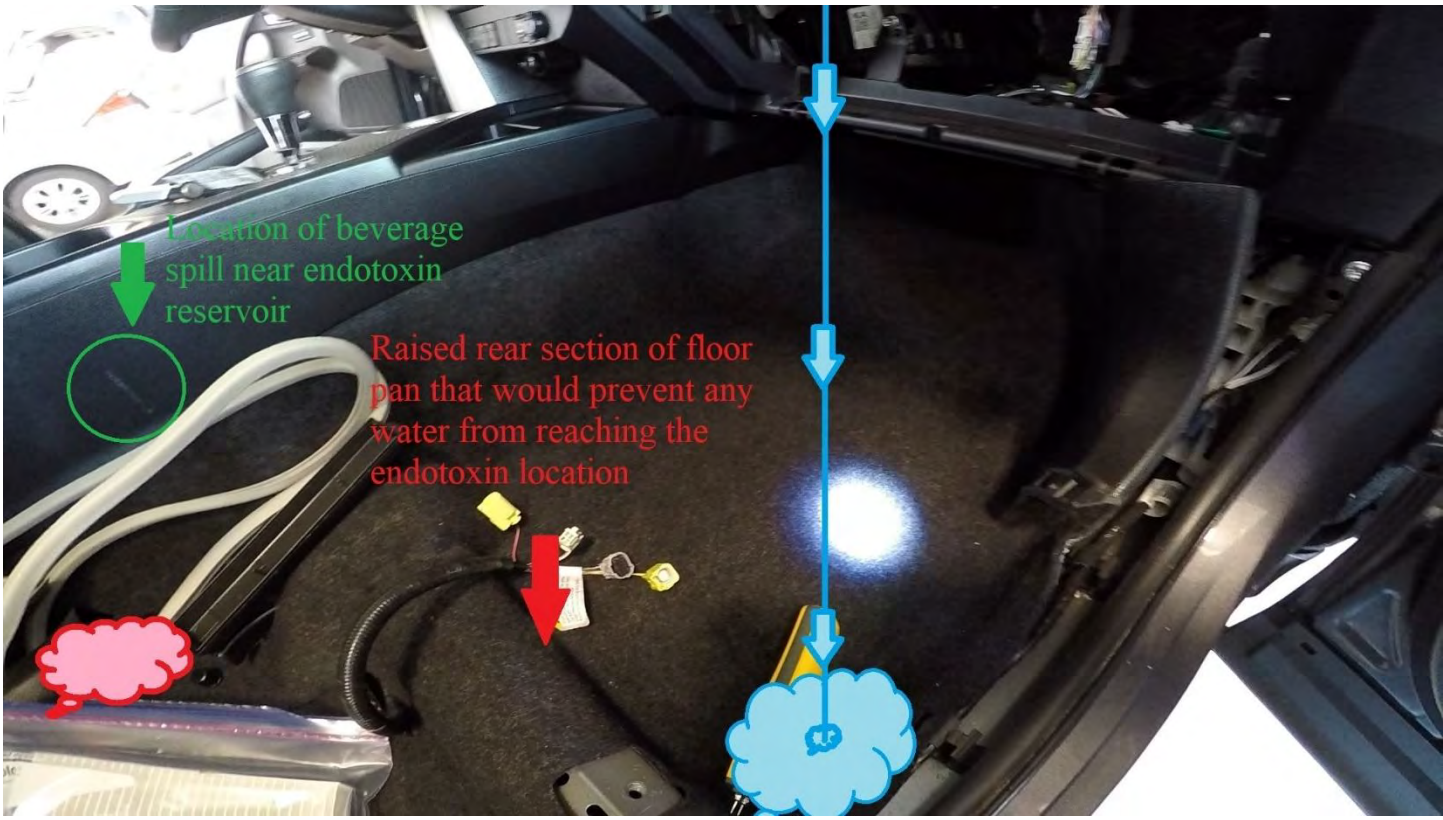
Water leak

The water leak as described on the PAR bill of lading was "leaks water by passenger sun visor!!". PARS later discovered that the passenger side window was slightly open, and the child window lock feature was engaged which prevented the window for being rolled up entirely. PARS then disabled the child window lock feature, rolled up the window and observed the condition of the vehicle following a night of rain. There was no water intrusion observed and the interior of the vehicle was dry prior to delivery to Mrs. Beckemeyer. She has testified that she never saw any water leaks in the vehicle for the duration of the period in which she had possession of it. The following photos show where the water came in and where it would have ended up on the floor mat.



Visual depiction of leak location and where water drops would have landed in the vehicle in blue. Location of endotoxin sampling location in red.

Based on the volume of space in the floor pan, an amount in excess of 10 gallons of water would need to enter before it could spill over the pan and reach the endotoxin sampling location.



Visual depiction of leak location and where water drops would have landed in the vehicle in blue. Location of endotoxin sampling location in red. The beverage spill seen in earlier photo is indicated in green. (Bright white spot is a high intensity flashlight beam used in the inspection.)

Endotoxin exposure hypothesis

Mr. Rucker has speculated that an unnamed driver may have been exposed to endotoxins in the manner described below:

ROUTE OF DRIVER EXPOSURE TO ENDOTOXIN DUST

1. Endotoxin located beneath passenger seat

2. Left rear supply vent located beneath passenger seat

3. Air Flow over carpet endotoxin reservoir creates airborne dust

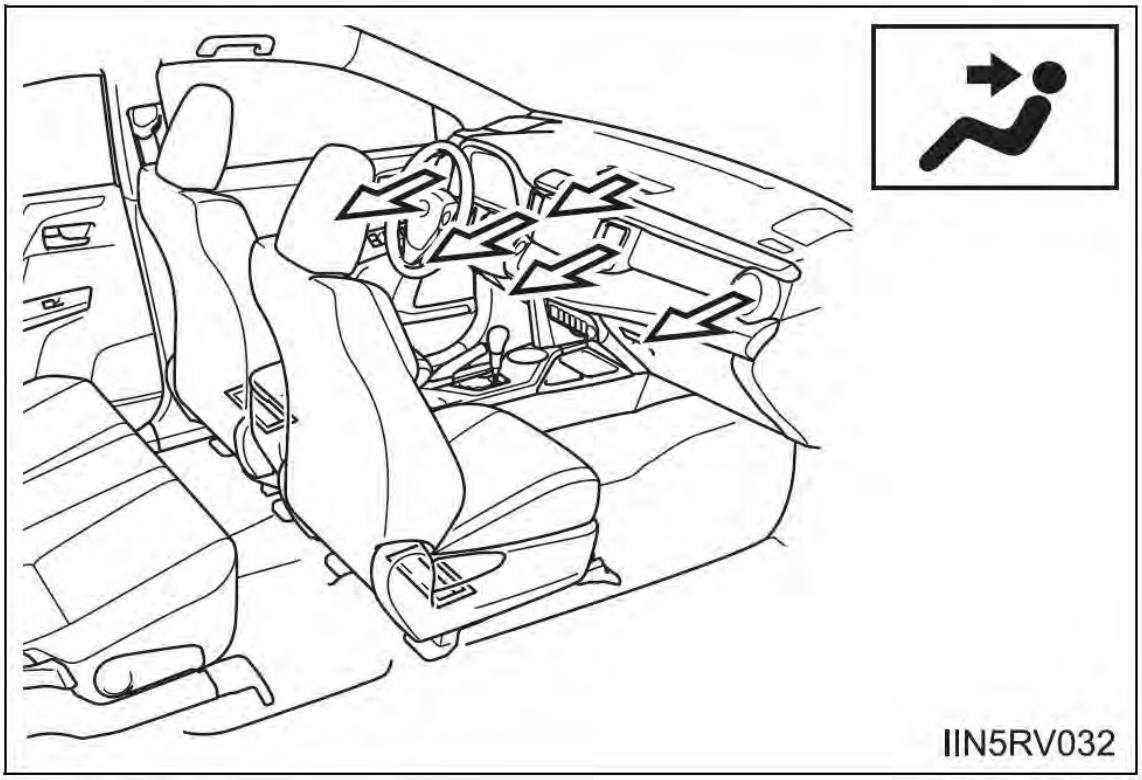
4. Endotoxin dust moves freely in the cabin circulating into the occupant breathing zone

5. Endotoxin dust is filtered and recirculated within the cabin

There are several fundamental problems with this hypothesis. Endotoxins are not readily disbursed by air on their own. They require some sort of vector, a ride on something, for example dust or pollen to become airborne. I do not know what the substance actually is, but let's assume for argument's sake that the white substance seen in an earlier photo is located below the cup holder and above the endotoxin testing locations is coffee with extra cream, or a vanilla milkshake or milk, any liquid that may dry that color would be fine for use in this example. This spill would provide both the food source and moisture required for bacteria growth. This growth could and would occur very rapidly, until the amplification was limited by the food source or the moisture source and the bacteria die. The resulting sticky endotoxin laden substance is not going to blow around the vehicle. Anyone who has ever spilled something like this knows a damp towel and maybe even some automotive carpet shampoo may be needed to remove the residual material from the carpet. Also, an airborne substance behaving as suggested by Mr. Rucker, that could somehow escaped being captured in the micron filter that it would be going through multiple times per minute, would not land back in the same place it originated from, it would settle more evenly over the horizontal surfaces of the vehicle. The 4 endotoxin samples would be expected to be much closer in sampled value.

Since this matter relates to Mrs. Breckmeyer, I will assume Mr. Rucker is speculating that she was the driver so exposed to the endotoxin dust. This presents an additional problem. The vent identified in the diagram as providing the airflow that caused the endotoxin dust is not operational during vehicle cooling. This is a heat supply vent, heat is supplied low in the vehicle since it naturally rises. Cooling is supplied in the higher vents as cold air sinks.

This vehicle is non-typical in how it supplies cold air the rear seat occupants, this is accomplished by using a non-directional vent high in the upper center of the dash. The cold air is directed in a stream between the two front seats to the rear seats. This mode of operation was confirmed on a 2014 RAV4 at a local dealership. The diagram supplied by Mr. Rucker is not the correct diagram for the subject vehicle. The correct diagram is below.



Rear seat cold air supply duct is depicted by the centermost arrow.

Source: 2014 Toyota RAV4 Owner's Manual Page 309

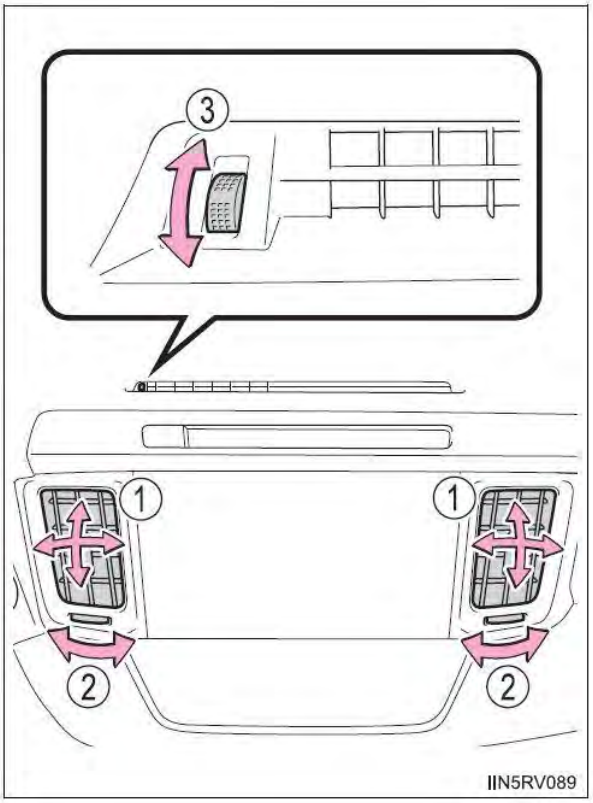
Adjusting the position of and opening and closing the air outlets

■ Front center outlets

① Direct air flow to the left or right, up or down.

② Turn the knobs to open or close the vents.

③ Turn the knob to open or close the vent for rear seat occupants.



Source: 2014 Toyota RAV4 Owner's Manual Page 312

Note 3 describes operation of vent for the rear seat occupants and to reiterate, it is located in the front center of the dash above the GPS/ Radio screen.

Since, Mrs. Breckmeyer had use of the vehicle from May 4th, 2016 to September 30th, 2016 the use of the air conditioner would render Mr. Rucker's proposed method of exposure impossible.

One final point that is probably now irrelevant, but I would be remiss not to make it known. A video I was taking as part of my inspection inadvertently captured Mr. Rucker vacuuming the pattern template while sampling the passenger side under seat location. It appears entirely unintentional. But since the template appears to have been previously used and was possibly a source of endotoxin contamination unrelated to the vehicle.

Whole World Health Care, PC Report

My review of Dr. McMahon's report is done generally, with a focus on how it relates to Mrs. Beckemeyer's alleged exposure to mold and endotoxins.

Background Information

Chronic Inflammatory Response Syndrome (CIRS)

Prior to this assignment I had never heard of CIRS, this is strange because components of licensing renewal courses frequently have a portion of the training devoted to air quality related diseases. The purpose is to make those engaged in remediation activates aware of the state of medical science related to the hazards they work with. For example, we are trained on histoplasmosis, an infection caused by a fungus found in the droppings of birds and bats in humid areas. It is not serious if confined to the lungs but can be deadly if spread throughout the body. This is a CDC recognized disease, primarily affecting those engaged occupationally in settings that would expose them to large amounts of the fungus responsible for causation.

What is it CIRS?

Dr. McMahon's report states "CIRS is a chronic, progressive, debilitating disease." His website states "CIRS is a multi-system illness caused by innate immune system dysregulation." And "Most patients have many seemingly unrelated health problems in various parts of the body. Patients with CIRS can have problems in virtually any part of the body."

Source: https://www.wholeworldhealthcare.com/faq-1

There is no medical board certification that recognizes CIRS treatment as a medical specialty. According to Dr. McMahon, "The closest to such an achievement is passing Dr. Shoemaker's CIRS Certification Program. Dr. McMahon is the first physician in the world to complete this rigorous testing."

Source: www.wholeworldhealthcare.com/about-dr-mcmahon

Dr. Shoemaker, the "disease" founder defines CIRS as "An acute and chronic, systemic inflammatory response syndrome acquired following exposure to the interior environment of a water-damaged building with resident toxigenic organisms, including, but not limited to fungi, bacteria, actinomycetes and mycobacteria as well as inflammagens such as endotoxins, beta glucans, hemolysins, proteinases, mannans and possibly spirocyclic drimanes; as well as volatile organic compounds (VOCs). We certainly need to consider any possible components of influence from a water damage building. Mold is a big one!"

Source: https://livinglovecommunity.com/mold-2/

Other practitioners are calling it "a combination of illnesses or symptoms".

Sources: www.serenityhealthcarecenter.com/chronic-inflammatory-response-syndrome/

And others find it fraudulent: "Ritchie Shoemaker is known for inventing a diagnosis called Chronic Inflammatory Response Syndrome (CIRS). Shoemaker believes that CIRS is caused by "biotoxins," which are often produced by mold. CIRS is not recognized by any mainstream medical organization. The symptoms blamed on "mold illness" typically have nothing to do with mold. Unnecessary mold phobia is causing people to be afraid to enter houses and buildings. According to Dr. Farah Khan, who wrote about beliefs in unsubstantiated mold diagnoses, "The scientific evidence to back up CIRS is severely lacking, and if you search for more details on specific clinical descriptors, you will end up empty-handed."

https://lymescience.org/ritchie-shoemaker/

Exposure to molds can cause human disease through several well-defined mechanisms. In addition, many new mold-related illnesses have been hypothesized in recent years that remain largely or completely unproved.

Source: J Allergy Clin Immunol 2006;117:326-33.

Regulatory Charges

There are regulatory and licensing charges against Dr. Shoemaker, which include:

FDA charges

In 2004, the Food and Drug Administration (FDA) charged Ritchie Shoemaker, MD with seven violations and ordered him to stop injecting patients with a veterinary drug not licensed for human use.

FDA accused Shoemaker of administering and instructing 78 patients to self-administer the veterinary drug Staphage Lysate, which was not approved for human use. FDA also found:

Shoemaker did not have a written protocol during the time of the study

Shoemaker did not get the written informed consent from seven subjects

Shoemaker failed to obtain IRB approval of the study, and

Shoemaker failed to maintain records.

Medical board charges

On March 3, 2013, Maryland Board of Physicians found that Shoemaker "failed to meet the standard of care." Shoemaker opted to stop practicing medicine. Accordingly, the Board ordered that, "should the physician resume the practice of medicine, the physician will be placed on Probation for a minimum of two years with terms and conditions."

https://lymescience.org/ritchie-shoemaker/

There is some advice given that is contrary to sound medical practice. For example, one website has the heading" Waiting For A Diagnosis Might Not Be The Answer" and recommends commencing with treatment of CIRS before a diagnosis has been rendered.

Source: www.drelenaklimenko.com/chronic-inflammatory-response-syndrome/

Additionally, part of the CIRS "detoxification" process prescribes Cholestyramine (CSM) which is an FDA-approved medication used to lower elevated levels of cholesterol "Off-label". This means that the drug is prescribed for an indication that has not been approved by the FDA. This is not illegal but does require signed consent from the patient.

Source: Ten Common Questions (and Their Answers) About Off-label Drug Use Christopher M. Wittich,a,∗ Christopher M. Burkle,b and William L. Lanierb

In conclusion CIRS is widely recognized by practitioners that stand to gain financially from the "disease" and not so much by conventional practitioners that recognize it as alternative medicine at best or a pseudoscience at worst.

One very suspect aspect of the "disease" is ambient outdoor mold is not at all considered as a possible cause of symptoms. Only indoor mold from a water damaged building can be causative.

Governmental Agencies with findings contrary to Dr. McMahon's Position

Dr. McMahon's report presents a defense of his/ Dr. Shoemaker's theories and he claims to be "super specialized", he feels that the general medical community does not recognize his diagnosis because they are not part of the "relevant scientific and medical communities" and about those who fall into this category, he states: "The opinions of all others are irrelevant."

Multiple Agencies don't meet Dr. McMahon's definition of the "relevant scientific and medical communities" and their opinions would fall into his "irrelevant" category: These include:

Government Accountability Office

GAO concluded that certain adverse health effects are more clearly associated with exposure to indoor mold than others.

United States Environmental Protection Agency

United States Environmental Protection Agency cites the lack of federal regulation of airborne concentrations of mold indoors is largely due to the insufficiency of data needed to establish a scientifically defensible health-based standard.

Institute of Medicine

Institute of Medicine has determined the highest level of connection between indoor mold and adverse health effects can be sufficient evidence of a causal relationship.

The Institute of Medicine's 2004 comprehensive report concluded that certain adverse health effects are more clearly associated with exposure to indoor mold than others. These are certain respiratory effects, such as nasal congestion and the exacerbation of pre-existing asthma, are associated with exposure to indoor mold.

The available evidence was not sufficient to determine whether associations exist between mold and a variety of other health effects, such as the development of asthma, rheumatologic and other immune diseases, cancer, acute pulmonary hemorrhage in infants, and reproductive effects.

Institute of Medicine was unable to associate a number of adverse health effects with exposure to mold because the available studies were of "insufficient quality, consistency, or statistical power to permit a conclusion regarding the presence of an association."

Institute of Medicine determined conclusively associating exposure to mold with certain health effects is challenging, because available studies have been of insufficient quality, consistency, or rigor. Two key research issues contribute to this difficulty: (1) the lack of standardized, quantitative methods of measuring exposure to mold and (2) the difficulty in determining which of several disease-causing agents in damp indoor environments may be responsible for the adverse health effects.

The 2004 Institute of Medicine report concluded that there is a need for research to determine the health effects of long-term exposure to the toxins that some molds can produce.

Source: GAO-08-980 Indoor Mold Report

Centers for Disease Control

CDC recognizes the following fungal diseases:

Aspergillosis, Candidiasis, Coccidioidomycosis (valley fever), C. gattii infection, Fungal nail infections, Mucormycosis, Pneumocystis pneumonia (pcp), Sporotrichosis, Blastomycosis, Candida auris, C. neoformans infection, Fungal eye infections, Histoplasmosis, Mycetoma, Ringworm and Talaromycosis

Source: www.cdc.gov/fungal/diseases/index.html

No information on CIRS could be found on any of the above governmental agency websites.

Medical History Inconsistencies

Allergies

Medical records indicate Mrs. Beckemeyer has allergies including allergies to mold generally and Epicoccum and Farsium specifically. Dr. McMahon indicates that the detection identified in Mr. Rucker's report of 2 spores of Epococum in the driver's side carpet 21 months after Mrs. Beckemeyer turned in the vehicle is significant because she has displayed an allergy to that type of mold. His report fails to consider the statistical fact that Mrs. Beckemeyer inhaled 24,847 spores of Epococum and 13,743spore of Farsium. from the ambient air in the period she was assigned the RAV4.

Meniere's Disease

Dr. McMahon incorrectly indicates Mrs. Beckemeyer's Meniere's disease was resolved via surgery in 1997, Mrs. Beckemeyer has testified the surgery was not successful and she continued to have the same symptoms as prior to the surgery. However, at some point she claims to have completely resolved these symptoms by maintaining a low sodium diet for one week.

Water damage building (vehicle) determination requirements

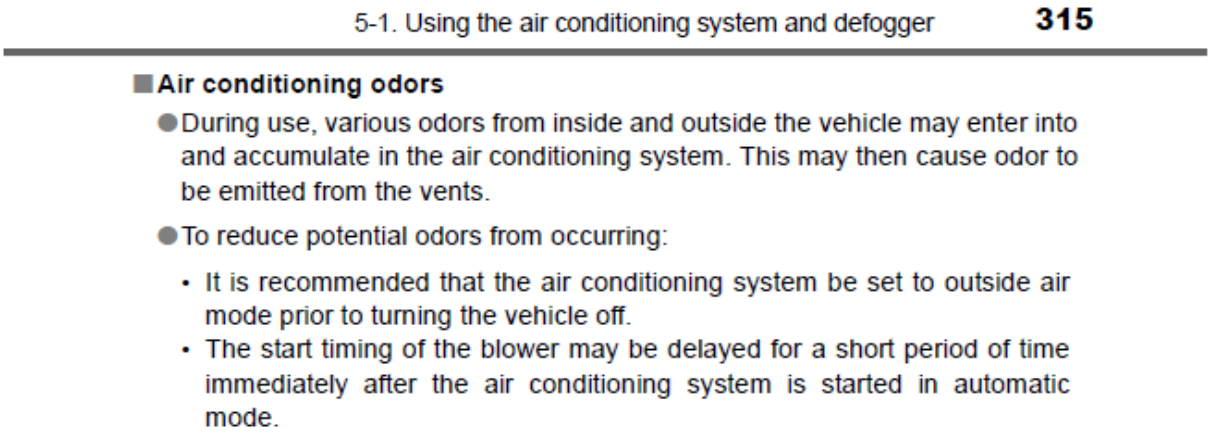
Dr. McMahon indicates the first criterion to demonstrate in a CIRS determination is exposure to mold or a water damaged building. He claims GAO provides guidance on this, it does not, however they do discuss the consistency of government agency guidance on mold testing.

Visible mold

Neither Mr. Rucker nor I found any visible mold in the vehicle. I don't believe Dr. McMahon is indicating there was visible mold.

Musty odor

Dr. McMahon indicates Mrs. Beckemeyer noticed a musty smell with the very first exposure which they incorrectly claim was June 20, 2016. When asked in deposition about the smell "Musty-type smell?" she responded, "It just was a smell." It would not be unusual for a vehicle that had been in storage for a short period of time to have a smell. In fact, this is so common even in operational vehicles, that Toyota references it in the vehicle manual and it explains what should be done to resolve it.



5-1. Using the air conditioning system and defogger 315

Air conditioning odors

- During use, various odors from inside and outside the vehicle may enter into and accumulate in the air conditioning system. This may then cause odor to be emitted from the vents.
- To reduce potential odors from occurring:
  - It is recommended that the air conditioning system be set to outside air mode prior to turning the vehicle off.
  - The start timing of the blower may be delayed for a short period of time immediately after the air conditioning system is started in automatic mode.

Source: 2014 Toyota RAV4 Owner's Manual Page 315

Commercial testing

This testing was conducted and entirely mis-interpret by Dr. McMahon as discussed elsewhere in this report.

Instead of 2 of the 3 alleged mold determination requirements being met for Water Damage Building/ Vehicle status it was 0 for 3. The RAV4 is not a water damaged building or vehicle.

Vehicle vs. Building

Dr. McMahon was correct in assuming one might argue a car is not a building, because it clearly is not. Yes, it is a space, with ventilation and respirable air. I disagree that Mrs. Beckemeyer was "confined" to the vehicle. Mrs. Beckemeyer frequently requested that services be authorized on the vehicle but often chose not to bring the vehicle in for the authorized repair.

In concluding that a vehicle is like a building Dr. McMahon incorrectly claims the air space in a 2014 RAV4 is 73.4 ft³ with seats down. This is the cargo volume, including the space for the occupants the vehicle air volume is more in the 150 ft³ range. However, a very important principle is brought up. Dr. McMahon would like one to believe since this small space is exposing the occupant to a higher relative concentration of mold or bacteria when studies have showed the exact opposite is true.

Using the same example, he presents, we can determine a 2000 square foot with 8 foot ceilings has an air volume of 16,000 ft^3. If this home were located in West Chester, OH, based on climate data, it would require approximately 36,000 BTU to heat and cool. That size HVAC system would require a 1200 cubic feet per minute blower. During operation the air in the home would be filtered once every 13.3 minutes or roughly 4 times per hour.

A Toyota RAV has a 19,200 BTU/ HR cooling capacity and a 600 cubic feet per minute blower. Cars need massive cooling capacity in order to quickly bring down the interior temperatures on hot days (easily 130-150 degrees F) to comfortable levels (70-75 degrees F) in a few minutes. Houses, on the other hand, only need to handle temperature variations of about 15 degrees. So, the air in the vehicle cabin is being filtered 4 times per minute vs. 4 times per hour in the home. This is the science behind the study that finds total number or microorganisms decreased (mean reduction: 81.7%), the number of mold spores decreased (mean reduction: 83.3%), and the number of airborne particles decreased (mean reduction: 87.8%) within few minutes after starting a vehicle AC system.

Source: Vonberg et al., The microbiological quality of air improves when using air conditioning systems in cars BMC Infectious Diseases 2010, 10:14

Additionally, this particular vehicle had an additional design feature to further protect Mrs. Breckmeyer from the naturally occurring poor air quality in the location she chose to live and work.

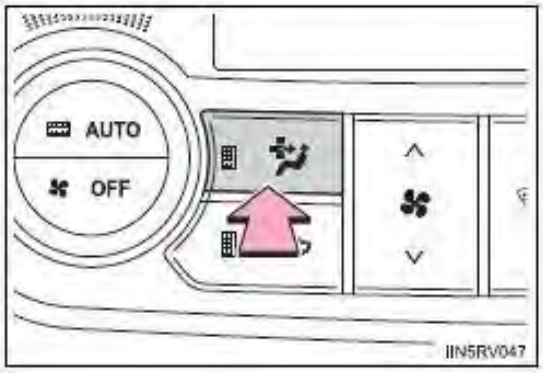
The 2014 RAV4 Limited is equipped with a micro dust and pollen filter mode. When engaged it limits the intake of outside air and rapidly decontaminates the air inside the vehicle cabin

Micro dust and pollen filter mode button

Operates micro dust and pollen filter mode on/off.

Outside air mode switches to recirculated air mode. Pollen is removed from the air and the air flows to the upper part of the body.

Usually the system will turn off automatically after approximately 3 minutes.



Source: 2014 Toyota RAV4 Owner's Manual Page 311

In order to accomplish the same degree of air filtration occurring in the RAV4, the example 2000 sf house would need 64,000 cubic feet per minute of air flow or the equivalent of adding an additional 52 HVAC units added to the home.

While a vehicle and a building share a few common elements, they are very different environments when it comes to the air quality within them.

Dr. McMahon's review of Mr. Rucker's Environmental Report

Mold

Dr. McMahon claims to be a "master of vast knowledge", which includes among other things "building science and mold testing methods and interpretation". However, his report is fundamentally flawed in the most basic principles relating to this claimed expertise. He seems to lack even the most basic understating of the fundamental principles of environmental testing. His interpretation of Mr. Rucker's report is entirely inconsistent with the findings presented in that report.

In what is one of the most absurd conclusions I have ever seen from a "expert", He incorrectly interprets the notation "Control Blk" to mean samples were taken on the engine block of the vehicle and that these samples have somehow become a scientific control against which he can determine that other results are amplified. In reality, a control blank or field blank is a way to ensure the sampling media was not contaminated prior to use, this is a very basic principle.

He then indicates a swab sample was taken on the carpet and was positive for a type of mold, a swab would not be used on the carpet and in fact were not used on the carpet in the testing.

He then claims that the AC condenser swab sampling found Aureobasidium which is "often found in HVACs with condensation problems". In reality, condensers never have condensation problems, this is the heat transfer component located outside of the vehicle.

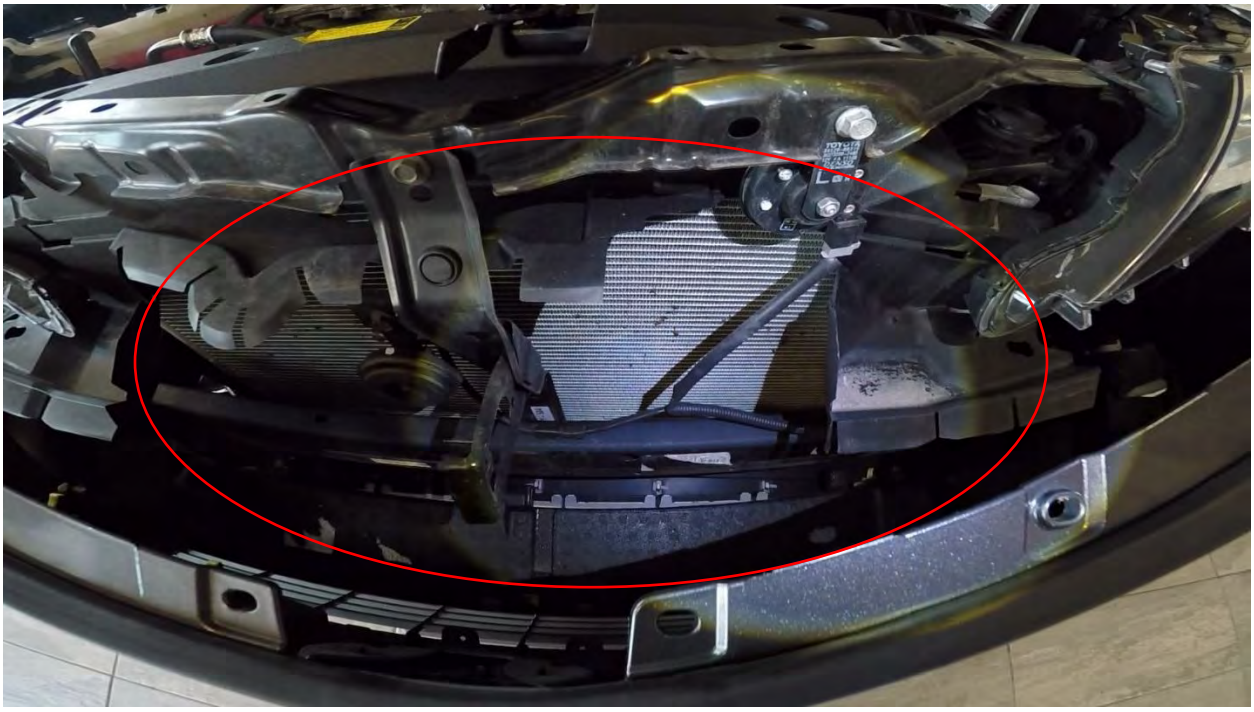
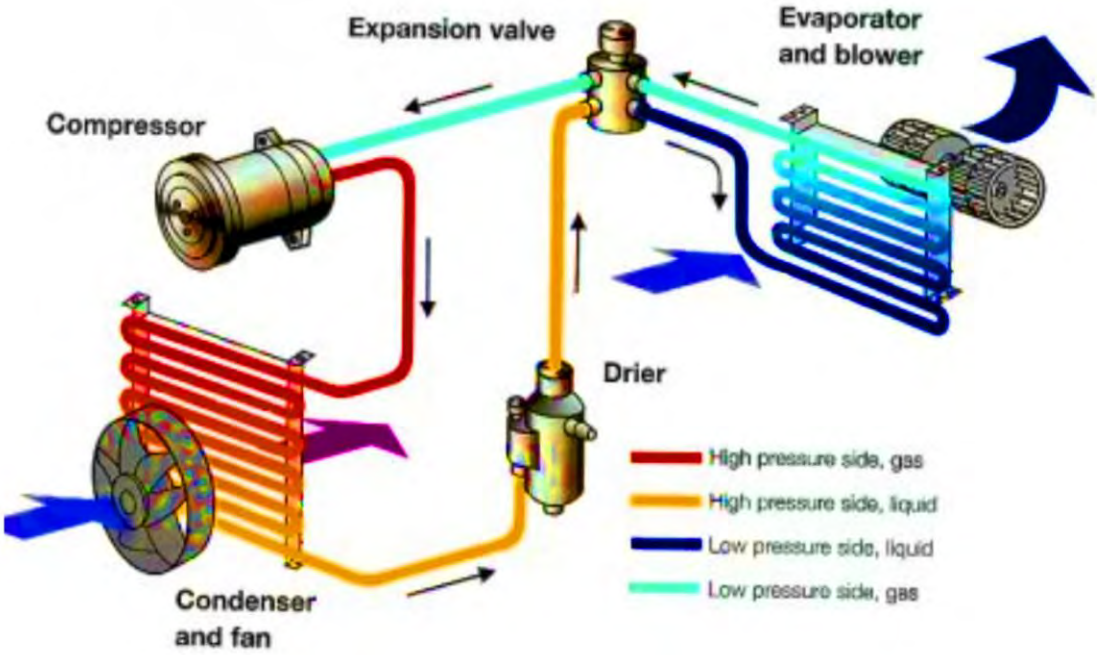


Photo of the vehicle condenser. Located in the front exterior of the vehicle behind the grill.



Automotive AC system

Next, he incorrectly identifies spore traps and being used to sample the center console duct and under the passenger seat. These samples were tape lifts and not spore traps.

Dr. McMahon seems very comfortable in forming opinions based on information from a report he clearly does not understand. His interpretation of the report is not at all in accordance with the information presented in Mr. Rucker's findings.

Dr. McMahon correctly indicates that without water that mold cannot grow, however he fails to understand that Mrs. Breckmeyer has testified that she has never seen water in this vehicle for the entire period she was in possession of it, her sole reason for believing there was water damage comes for the note on the bill of lading.

Dr. McMahon incorrectly concludes that since Chaetomium (4 spores) found in the baseline air sample confirms significant water damage. He states "Chaetomium confirms there was significant water (saturation or near saturation) for a lengthy period of time (weeks to months). Chaetomium is a mold normally found in soil, air, cellulose and plant debris. There are about 95 species in the widespread genus.

Source: Dictionary of the Fungi (10th ed.). Wallingford, UK: CABI. p. 131

In Mr. Rucker's report, there were no findings of amplified mold, mold growth, elevated spore counts or condensation problems. In fact, every mold sample was significantly below the Low Range of Mold Interpretation Guidance, Chubb owned subsidiary ESIS Risk Management Services Group (2009). The only exception was the cabin air filter, which when coupled with no mold being found in either of the two supply ducts tested as well as the AC duct downstream

of the filter as tested by Mr. Rucker, it is proof positive that the micron filter is performing its intended function and capturing ambient mold spores and preventing them from reaching the breathing zone of the vehicle occupants.

Endotoxins

The findings of Mr. Rucker's report in this regard were "Results. Ecostratum interprets endotoxin results collected from beneath the passenger side seat carpet to be elevated. Our judgement was aided by published guidelines and experience."

He concludes that the presence of these endotoxins is proof that the vehicle has been water damaged. Endotoxin levels do not confirm bacterial growth and water damage, studies indicate the clear majority of airborne outdoor endotoxin is carried by weed pollen and that the highest bacteria counts in vehicles are related to food spills.

He relies on the faulty theory of endotoxin exposure as presented by Mr. Rucker, had he taken the time to research the issue he would have come up with a different conclusion.

Vehicle Remediation

Dr. McMahon incorrectly states that the vehicle was "remediated", service records do not support this conclusion.

Vehicle usage post Mrs. Breckmeyer

Dr. McMahon correctly determines testing was done more than a year after Mrs. Beckemeyer ceased driving the vehicle, specifically, it was 21 months. He then incorrectly presumes that the RAV4 had not been driven in that period prior to our respective inspections. And that would be the reason Mr. Rucker and I would not find any water in the vehicle when conducting our respective inspections. Again, he seems to fail to realize that Mrs. Beckemeyer never observed any water in the vehicle the entire period she operated it. This truth is the vehicle was driven approximately 24,500 miles in this 21-month time period without incident or complaint.

Hurricane Sandy

Dr. McMahon's report references Dr. Cleveland's diagnoses. Findings indicate Mrs. Breckmeyer had "cognitive deficits, dizziness, vertigo with the company car that was in NJ during Hurricane Sandy. Mrs. Breckmeyer had claimed that the subject RAV4 was submerged from October 22, 2012 to November 2, 2012. However, since that was several years before the RAV4 was built, that is not possible.

Since Mrs. Breckmeyer was apparently in New Jersey in that time period and developed the symptoms she reported to Dr. Cleveland it is confusing as why Dr. McMahon would not focus on that as the source of her illness. She would certainly have been in and around water damaged buildings and vehicles, including the vehicle she reported to Dr. Cleveland. Below is an example of the conditions vehicle and buildings were in following Hurricane Sandy.

Not a photo of the subject Vehicle. New Jersey after Hurricane Sandy

Source: https://bucks.blogs.nytimes.com/2012/11/28/how-to-spot-a-water-damaged-car/

Vehicle usage

Dr. McMahon incorrectly indicates Mrs. Breckmeyer received the vehicle in June 2016. He claims her initial drive in the vehicle on June 20, 2016 and she became ill. The vehicle was in fact delivered on May 6, 2016. Gelco records indicate she had fueled the vehicle 3 times prior to the claimed first use. Fuel purchase dates were May 8, 2016, May 28, 2016 and June 18, 2016. Odometer data entered at the time of fueling indicates she had driven 574 miles in the vehicle between May 6, 2016 and June 18, 2018.

Illness Air Quality Correlations, Specific

Nothing less than remarkable correlations exist between Mrs. Beckemeyer's reported illness and outdoor air quality in locations she was in or traveling to.

June 20, 2016

Mrs. Beckemeyer claims this was the first time she drove the vehicle and reported becoming ill.

! This is the 3rd day of an air quality advisory for Butler County, OH. The only multi-day advisory in all of 2016.

! Ambient mold spore counts in Butler County almost reach the high threshold (1500 per M^3) with a spore count of 1,489 per M^3.

September 19, 2016

Mrs. Beckemeyer drove to Indianapolis, reports illness.

! Ambient mold spore counts in Butler County reach the very high threshold with a spore count of 7,507 per M^3. The highest mold spore count of 2016.

! This is also day 1 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

September 20, 2016

! Ambient mold spore counts in Butler County reach the very high threshold with a spore count of 6,131 per M^3. The 3rd highest mold spore count of 2016.

! This is day 2 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

September 21, 2016

Mrs. Beckemeyer drove to Indianapolis, reports severe illness. This is day 3 of 4 consecutive Indiana Department of Environmental Management Air Quality Action Days Alert.

! Ambient mold spore counts in Butler County reach the high threshold with a spore count of 2,283 per M^3.

October 24, 2016

Dr. McMahon claims Mrs. Breckmeyer drove the subject RAV4 and experienced the same symptoms. However, the vehicle was no longer in her possession at this time, it had been sold one month earlier at auction. It is noteworthy that she is now in a different vehicle and still experiencing the same symptoms, this indicates the exposure is ambient environmental in nature not vehicle related.

GAO report

Dr. McMahon relies heavily on Government Accountability Report entitled INDOOR MOLD, Better Coordination of Research on Health Effects and More Consistent Guidance Would Improve Federal Efforts. This report is about how various agencies could be more effective in their efforts relating to mold research. He has adapted it to become some sort of litmus test for mold exposure and litigation as well as a guide to determine causation.

He claims that the report gives guidelines on how to determine the causation with certainty of mold-based illnesses and indicates they are:

1. Exposure
2. Signs and Symptoms
3. Improvement with therapy

He then concludes that Mrs. Breckmeyer has met "all three GAO criteria for establishing causation."

What the report actually says in this regard is The Institute of Medicine has determined the highest level of connection between indoor mold and adverse health effects is:

Sufficient evidence of a causal relationship

According to the Department of Health and Human Services (HHS), establishing a causal relationship with adequate certainty requires several types of evidence, including (1) epidemiologic associations, (2) experimental exposure in animals or humans that leads to the symptoms and signs of the disease in question, and (3) reduction in exposure that leads to reduction in the symptoms and signs of the disease. They want conclusive testing in a clinical study and indicate that a causative association cannot be determined by only an epidemiologic study. HHS officials conclude that more data are needed to establish a causative association between exposure to mold and some illnesses because the vast majority of the studies conducted to date have been only epidemiologic.

Possible levels of connection between indoor mold and adverse health effect	
Highest	Sufficient evidence of a causal relationship
↓	Sufficient evidence of an association
↓	Limited or suggestive evidence of an association
Lowest	Inadequate or insufficient evidence to determine whether an association exist

Dr. McMahon's Conclusion

Dr. McMahon's report sensationalizes information in very misleading way. For example, in his conclusion he states, "Based on the GAO report criteria, I can state with a degree of medical certainty that the Rav 4 vehicle which she drove up to 25 hours per week was water-damaged and was causative in developing CIRS-WDB in Dr. Breckmeyer, due to chronic exposure."

Three of the claims in this single sentence are:

"she drove up to 25 hours per week", this is potentially true but much more sensational than that in a 149 day period 4307 were driven, assuming a low average speed of 30mph and a high average speed of 60mph, this places her in the vehicle from between 76.78 and 143.57 hours respectively. Or in other words she spent on average 3.6 to 6.7 hours in the vehicle per week.

"Rav 4 vehicle which was water-damaged", this is not consistent with either Mr. Rucker's or my finings based on our respective inspection and sampling results. Therefore, the basis of this opinion is formed on the clearly misguided interpretation of Mr. Rucker's report.

"due to chronic exposure." U.S. Department of Health and Human Services defines Chronic exposure as "Contact with a substance that occurs over a long time (more than 1 year)" so this is also untrue based on generally accepted definitions.

Source: U.S. Department of Health and Human Services, Agency for Toxic Substances and Disease Registry, www.atsdr.cdc.gov/glossary.html

Causation

Regarding specific causation Dr. McMahon claims, "No specific causation of an individual toxin, inflammagen, microbe or combination is required." What the GAO report actually says is "To obtain a judgment that mold has caused personal injury, an individual must persuade the court that the type of mold at issue is capable of causing the individual's condition and that the mold actually caused the condition in the specific case."

Dr. McMahon then tries to bolster his flawed argument with an analogy of Dr. John Snow and the cholera a contaminated well. In summary there was a contaminated well and when access to that contamination source was eliminated people no longer get sick.

The insinuation is that Mrs. Beckemeyer was exposed to mold in the RAV4 and she became ill. Sounds logical except that in the RAV 4 is not the only source of mold, it is found everywhere, floating through the air, we are all being exposed to it constantly.

Dr. McMahon claims the 1300 spores M^3 found via Mr. Rucker's testing is elevated and a sign of a water damaged vehicle and dangerous mold. But on the exact days Mr. Beckemeyer

reported illness the outdoor mold spore counts were 115% to 577% higher than what Dr. McMahon opines are dangerous and disease causing.

	Spores M^3	% higher
Baseline	1300	
6/20/2016	1489	115%
9/19/2016	7507	577%
9/20/2016	6131	472%
9/21/2016	2283	176%

Pollen and Mold Descriptors

Descriptor	Pollen	Mold
LOW	0-20	0-500
MODERATE	21-100	501-1500
HIGH	101-1000	1501-5000
VERY HIGH	>1000	>5000

Source: www.southwestohioair.org/local_air_quality/pollen_and_mold/historical_data

So, to be a true analogy, every well would need to be contaminated and when one was to get sick from exposure to the contaminate, one could simply pick the well owner with the deepest pockets and claim that as the source and cause of their illness.

Research Data

Multiple studies have determined that it would not be unusual to find allergens of microbial and nonmicrobial origin inside virtually every family car considering its normal use patterns. [1]

Automobiles are considered an indoor environmental source of endotoxin and β-(1,3)-glucan exposure, together with other indoor environments such as domestic dwellings clothing, schools, day-care centers , and aircraft. [2]

Endotoxin and β-(1,3)-glucan dispersal in automobiles is most likely from the outside environment where Gram-negative bacteria, as a source of endotoxin, and fungi, as a source of β-(1,3)-glucan, are ubiquitous. [2]

The use of air conditioning in a vehicle has a drastic positive effect on the in-vehicle air quality. In all sequences of air sampling the total number or microorganisms decreased (mean reduction: 81.7%), the number of mold spores decreased (mean reduction: 83.3%), and the number of airborne particles decreased (mean reduction: 87.8%) within few minutes after starting the AC system. The present study shows an enormous improvement of the microbiological quality of air when using the AC system in all cars tested. Thus, our data confirm the findings of Kumar et al., who also determined a significant reduction of mold spores in a car's cabin when using the AC system. Muilenberg et al. report a decrease of the concentration of airborne particles around the front seats when using an AC system. [3]

Endotoxins naturally occur in the environment. A recent study finds 60% of airborne endotoxins are carried by pollen of a common weed found in Ohio and most of the U.S. [4]

Our review suggests that the age of houses, cleaning, farm or rural living, flooring materials (the presence of carpets), number of occupants, the presence of dogs or cats indoors, and relative humidity were the strongest determinants for endotoxin loads in settled floor dust, while the presence of pets (especially dogs) were the strongest contributing factors for airborne endotoxin concentrations. Concerning the effect of several environmental factors on endotoxin levels, the literature findings are inconsistent and additional studies are needed. [5]

Knowledge of generally existing levels of endotoxins in indoor air and in settled floor dust as well as the factors influencing endotoxin levels in indoor environments is needed to correctly understand field data and to recognize “abnormal” levels of endotoxins. This review may be used as a guide to aid in the interpretation of endotoxin levels in different indoor environments. The analysis of the data showed that the reported indoor loads of endotoxins in settled floor dust, as well as the concentrations of endotoxin in indoor air varied widely within an indoor environment and between different indoor environments, being 660-107,000 EU/m2 and

0.04-1610 EU/m3 in residential homes; 2180-48,000 EU/m2 and 0.07-9.30 EU/m3 in schools; and 2700-12,890 EU/m2 and 6 EU/m3 in offices. - This review recommends that further efforts should be made to create a standardized, uniform sampling methodology for endotoxins and to investigate the impact of different local factors in different climate regions. [5]

The role of indoor dampness in triggering and exacerbating asthma and other respiratory symptoms has been documented in numerous studies; however, there is limited data on the relation of indoor dampness to mold sensitivity, particularly in populations living in areas with significant flooding events. The results of this analysis failed to find a significant relationship between any of the measures of mold/dampness exposure and sensitivity to mold allergens either in unadjusted or adjusted models. Furthermore, when asthma status was considered in the model, the results did not materially change. Thus, the finding of no association was robust across measures of exposure and across the study population. Although direct pre-post storm comparisons cannot be made, to explore the possibility that mold sensitivity was higher than expected in New Orleans residents, we compared our estimates to those obtained from general population estimates. To our surprise, we found the mold reactivity rate of 10% found in our sample equaled the rate in the general U.S. population. Further, among asthmatics, the prevalence of mold reactivity, at 14.9%, was lower than rates found in both the general population and in other atopic populations. [6]

[1] Sattar, Syed & E. Wright, Kathryn & Zargar, Bahram & Rubino, Joseph & Ijaz, M. Khalid. (2016). Airborne Infectious Agents and Other Pollutants in Automobiles for Domestic Use: Potential Health Impacts and Approaches to Risk Mitigation. Journal of Environmental and Public Health. 2016. 1-12. 10.1155/2016/1548326.

[2] Wu FFS, Wu MW, Chang CF, Lai SM, Pierse N, Crane J, Siebers R: Endotoxin and β-(1,3)-glucan levels in automobiles: a pilot study. Ann Agric Environ Med 2010, 17, 327–330.

[3] Vonberg et al., The microbiological quality of air improves when using air conditioning systems in cars BMC Infectious Diseases 2010, 10:146

[4] Artemisia pollen is the main vector for airborne endotoxin Oteros, Jose et al. Journal of Allergy and Clinical Immunology

[5] Atmospheric & Environment Journal, 142 pp. 360-369 (2016), Endotoxin levels and contribution factors of endotoxins in resident, school and office environments – A review, H, Salonen, C. Duchain, V. Letouneau, M. Mazaheri, S. Laitinen, S. Clifford, R. Mikkola, S. Lappalainen, K. Reijula, L, Morawska.

[6] Felicia A. Rabito, Sara Perry, W. Edward Davis, C. Lillian Yau, and Estelle Levetin, “The Relationship between Mold Exposure and Allergic Response in Post-Katrina New Orleans,” Journal of Allergy, vol. 2010, Article ID 510380, 7 pages, 2010

CONCLUSION

OPINION #1: The actions or inactions of Gelco or their contractor Professional Automotive Relocation Service (PARS) did not lead to mold and/ or bacteria growth in the subject vehicle.

OPINION #2: There was not, nor has there ever been mold and/ or bacteria growth in the subject vehicle that would be considered out of the ordinary.

OPINION #3: Exposure to mold and/ or bacteria while in the subject vehicle was not the direct and proximate cause of the Mrs. Beckemeyer's injuries.

OPINION #4: Mrs. Beckemeyer was exposed to less mold and/ or bacteria while operating the subject vehicle then she would have otherwise been exposed to outside of the vehicle.

OPINION #5: Vehicles are designed for minor water intrusion events by nature of their expected use.

OPINION #6: Mrs. Beckemeyer's work territory included 6 of the top 25 most polluted cities in the U.S. in 2016.

OPINION #7: Mrs. Beckemeyer's symptoms as reported by date corelate very closely with adverse air quality alerts in reported travel locations.

OPINION #8: Portions of Mr. Rucker's inspection report entitled Microbe & Endotoxin & Carbon Monoxide Gas Test Results are fundamentally flawed and inaccurate.

OPINION #9: Portions of Mrs. Beckemeyer's medical report from Whole World Health Care, PC are fundamentally flawed and inaccurate.

OPINION #10: Mrs. Beckemeyer's understanding of mold growth and mold remediation as allegedly explained to her is fundamentally flawed and inaccurate.

Opinion #11: Mrs. Beckemeyer was exposed to many mold spores via inhalation outside of the vehicle then inside of the vehicle.

Signature

11/2/2018

Appendix 1

Vehicle Inspection

Vehicle Inspection

A comprehensive vehicle inspection was conducted July 9, 2018 at Bob Rohrman Subaru, 1600 S. Creasy Lane, Lafayette, IN 47905. The vehicle VIN was confirmed, and the vehicle inspection occurred.

While the condition at the time of inspection may not necessarily represent the condition of the vehicle at the time of use by Mrs. Beckemeyer due to subsequent cleaning, therefor the inspection focused on examination and sampling of areas that would not be subject to routine or even detailed cleaning, for example underneath seats, under installed carpet and inside HVAC system ductwork. To this end the inspection consisted of partial disassembly of the vehicle by a trained technician to allow a very thorough inspection of these areas.

No water damage or mold growth was observed anywhere in the vehicle.

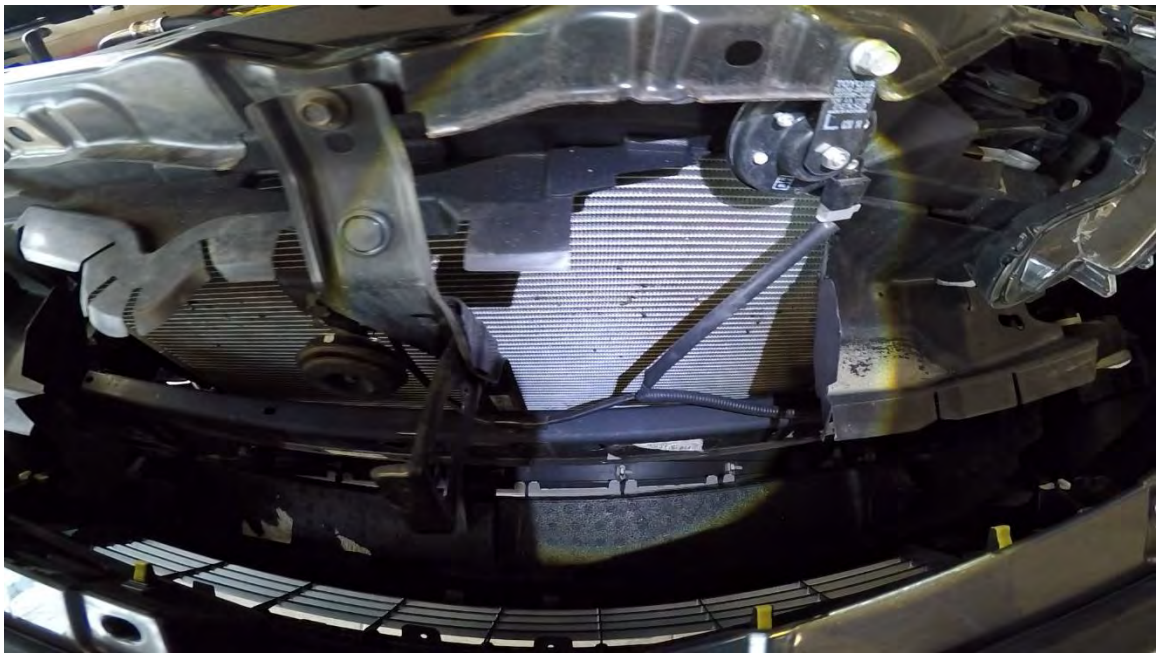
Vehicle VIN number checked and verified. This is the subject vehicle.

Vehicle Exterior, Passenger Side

Vehicle Exterior, Drivers side

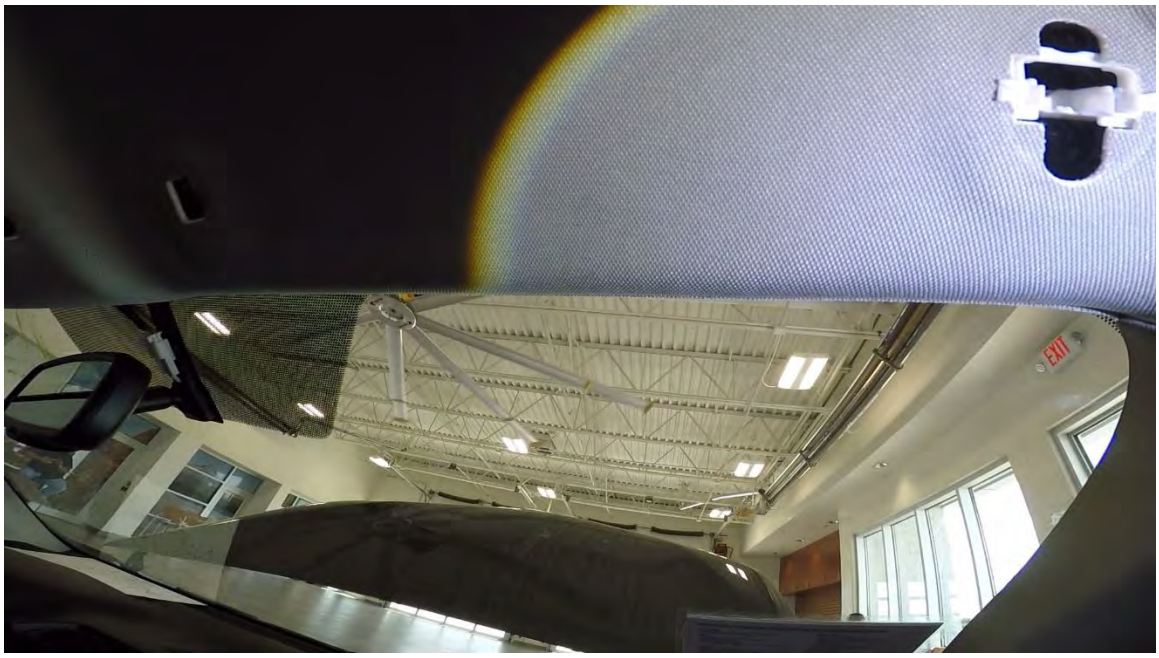
Vehicle Exterior, Rear

Vehicle Odometer



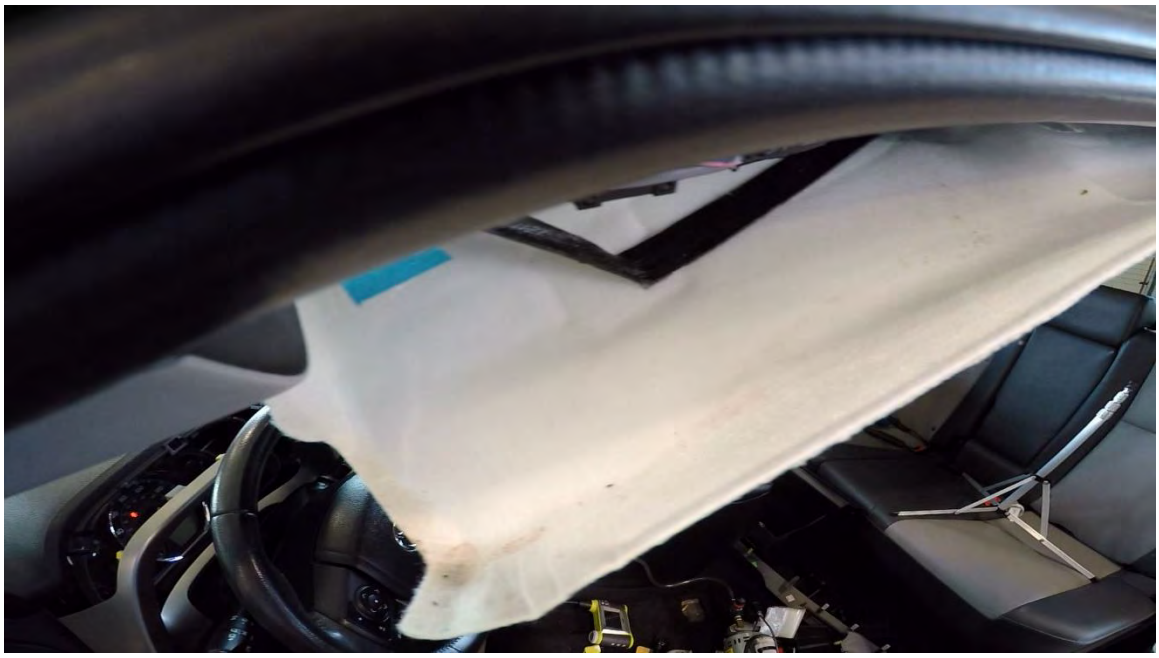
Vehicle Exterior, front grill

Vehicle Interior, Headliner



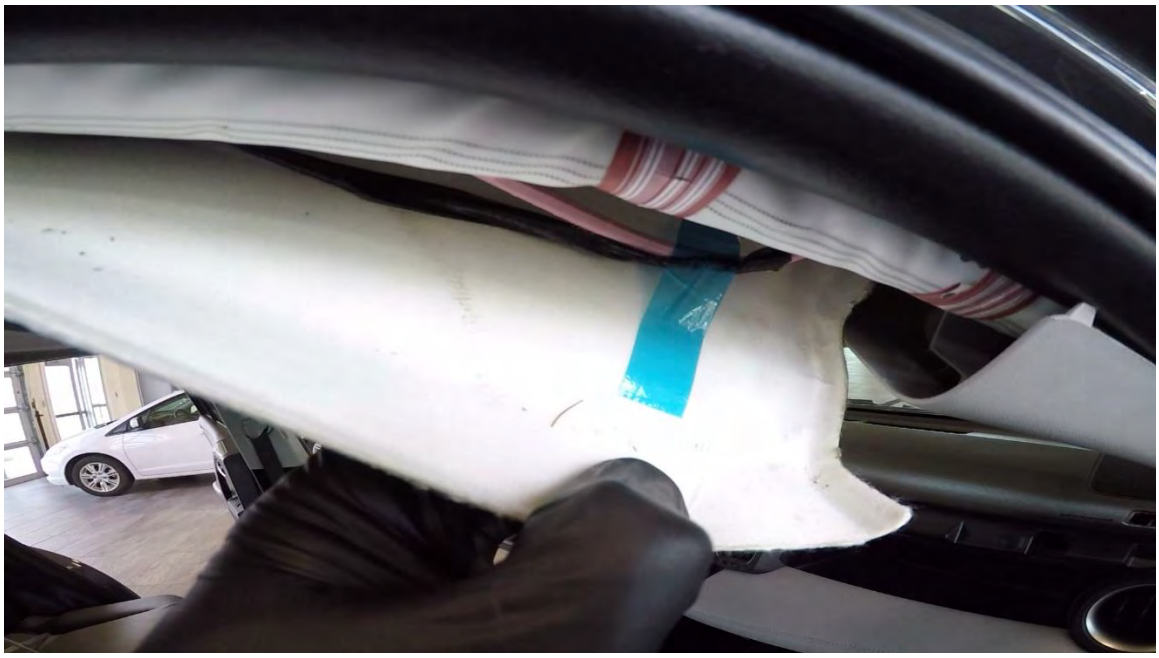
Vehicle Interior, Headliner

Vehicle Interior, Headliner



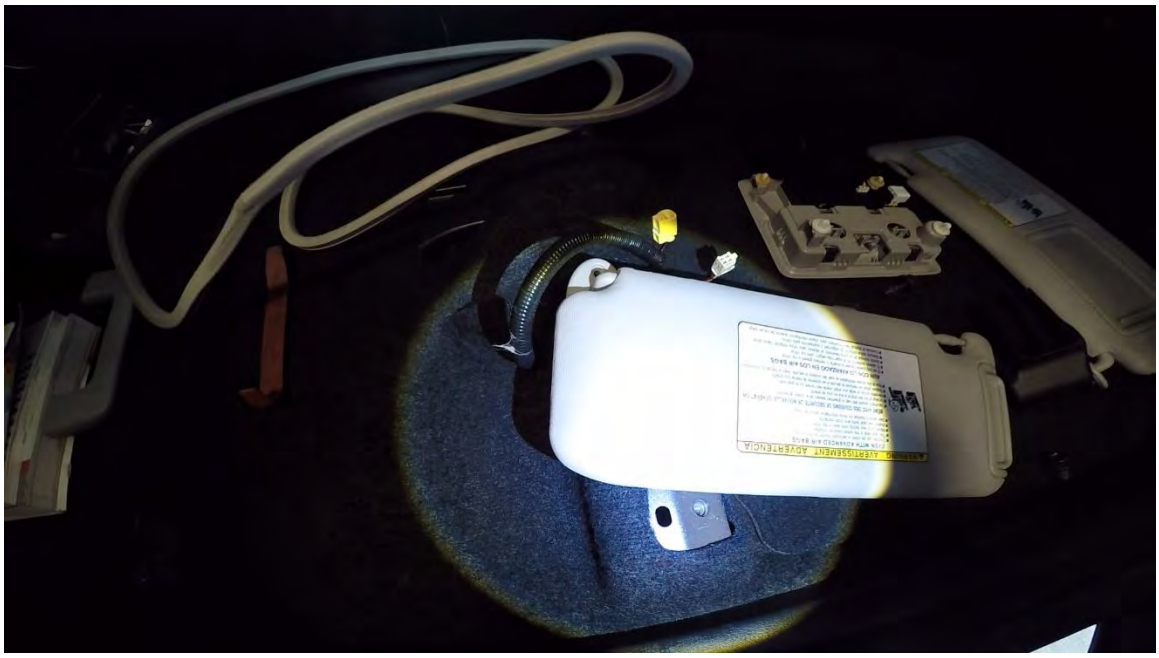
Vehicle Interior, Headliner

Vehicle Interior, Headliner



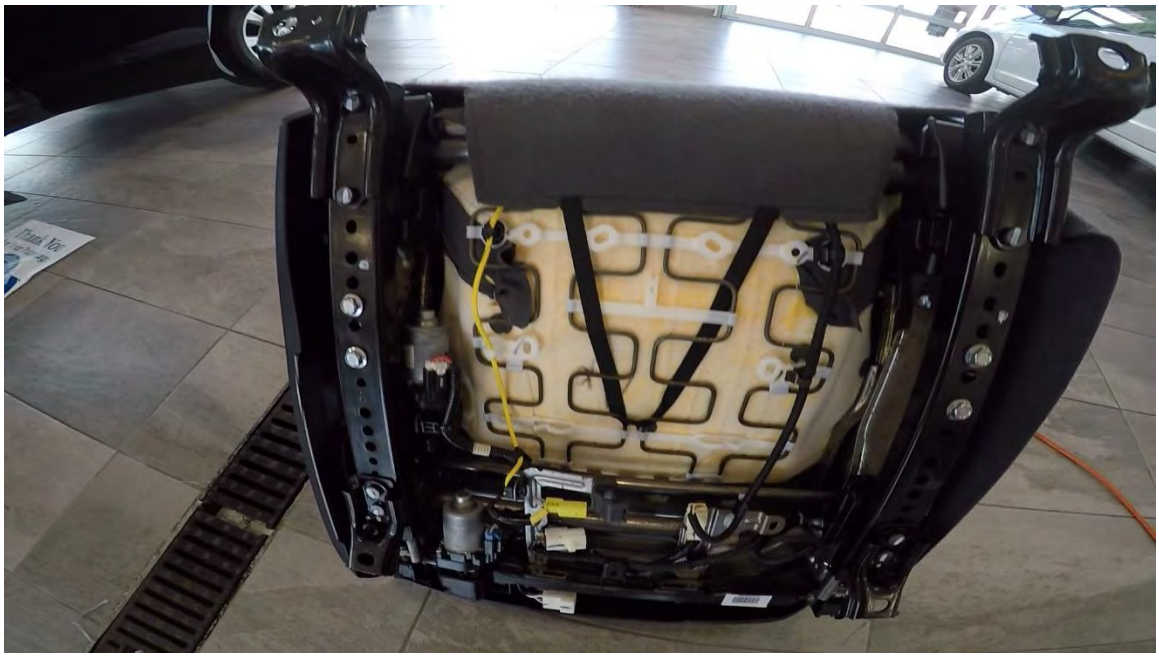
Vehicle Interior, Headliner

Vehicle Interior, Headliner



Vehicle Interior, Headliner

Vehicle Interior, Headliner

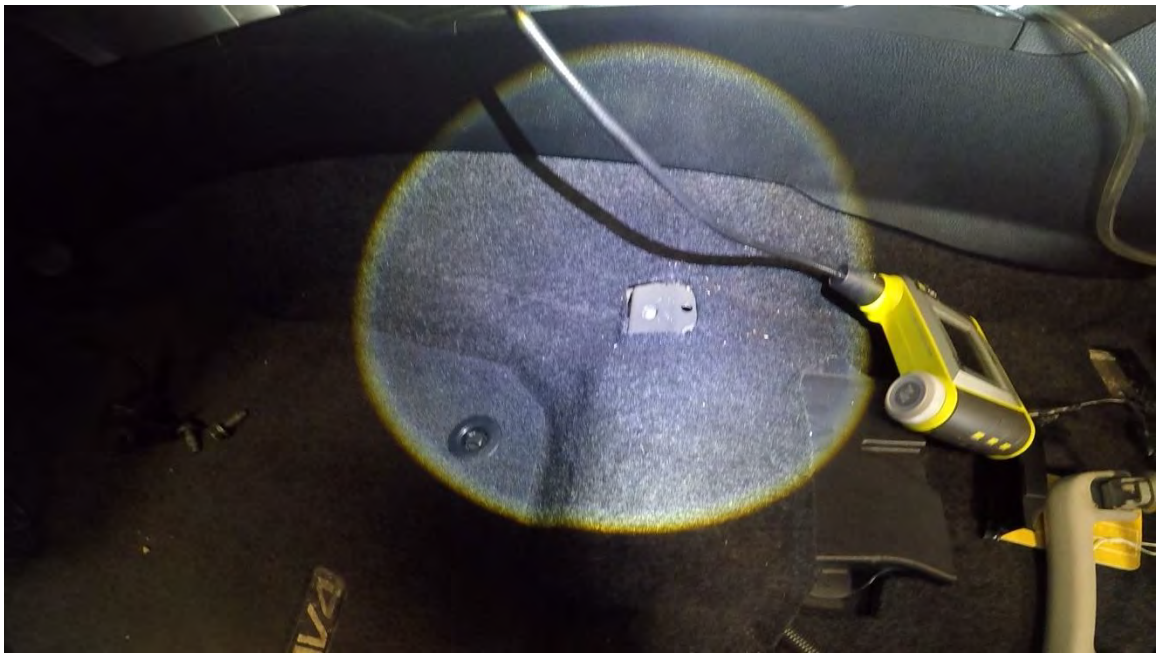


Vehicle Seat, Drivers Side

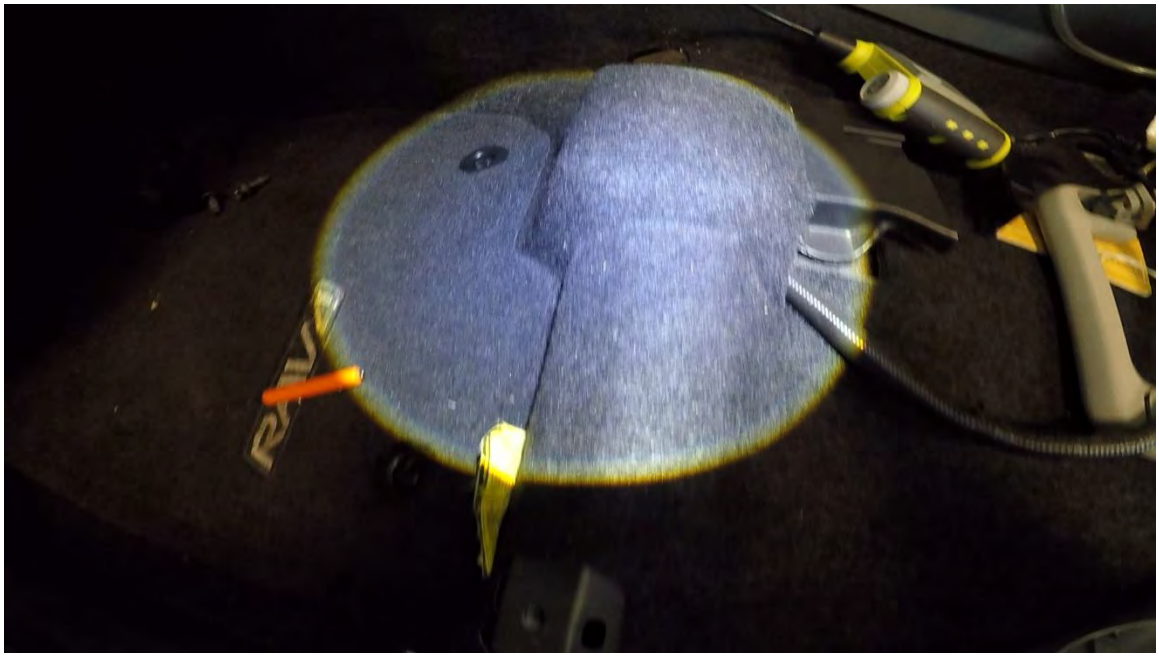
Vehicle Seat, Passenger Side

Vehicle Carpet, Drivers Side

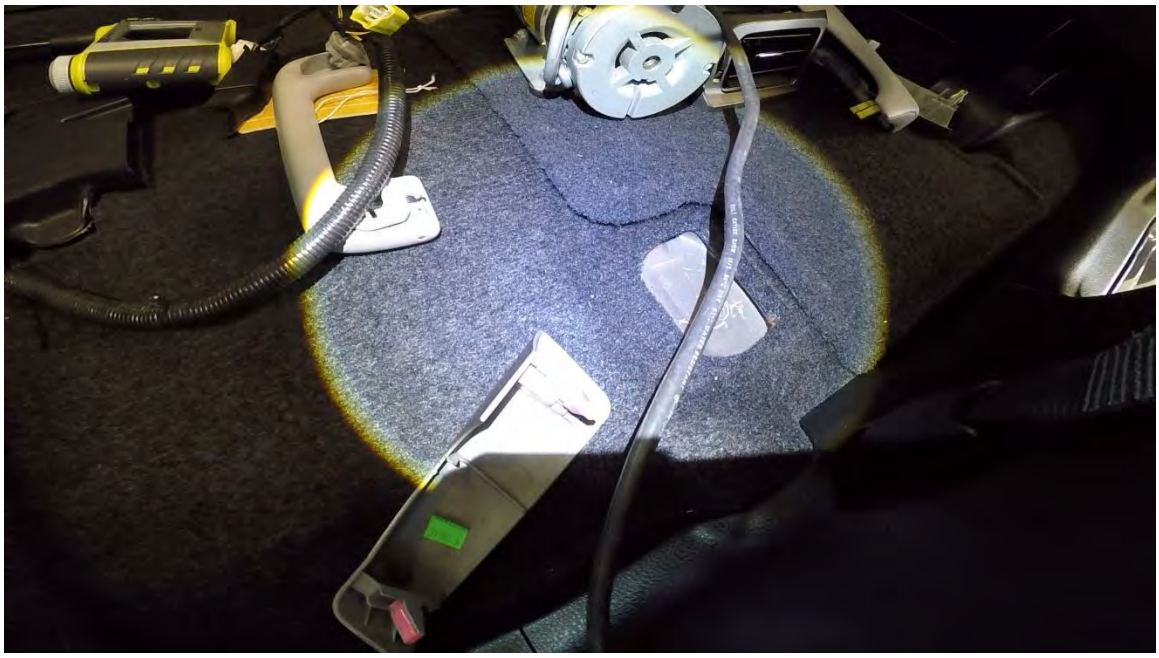
Vehicle Carpet, Drivers Side



Vehicle Carpet, Drivers Side



Vehicle Carpet, Drivers Side



Vehicle Carpet, Drivers Side

Vehicle Carpet, Drivers Side

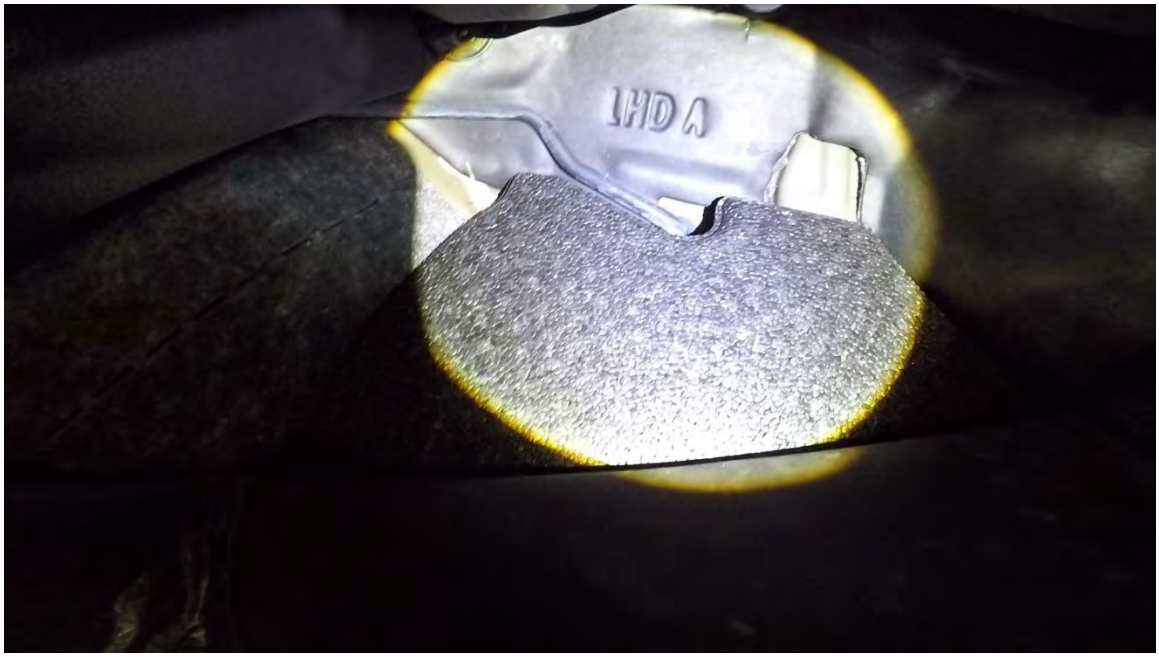
Under Vehicle Carpet, Drivers Side

Under Vehicle Carpet, Drivers Side

Vehicle Carpet, Passenger Side

Vehicle Carpet, Passenger Side

Vehicle Carpet, Passenger Side

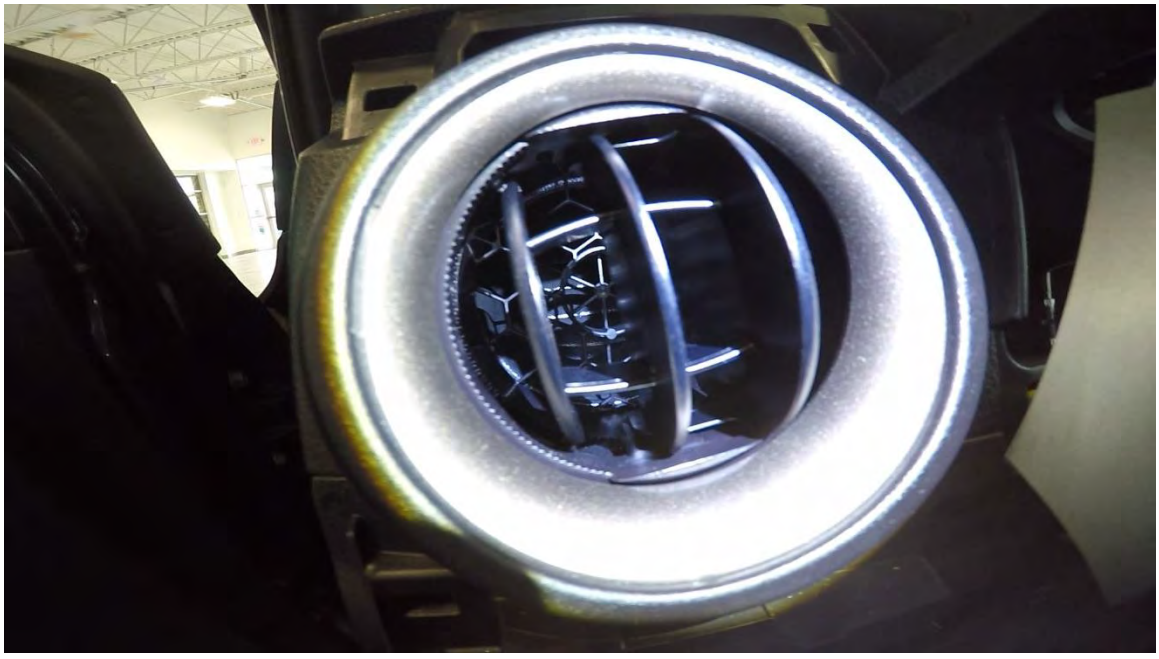


Under Vehicle Carpet, Passenger Side

Vehicle Carpet, Passenger Side

Vehicle Carpet, Passenger Side

Vehicle Carpet, Passenger Side



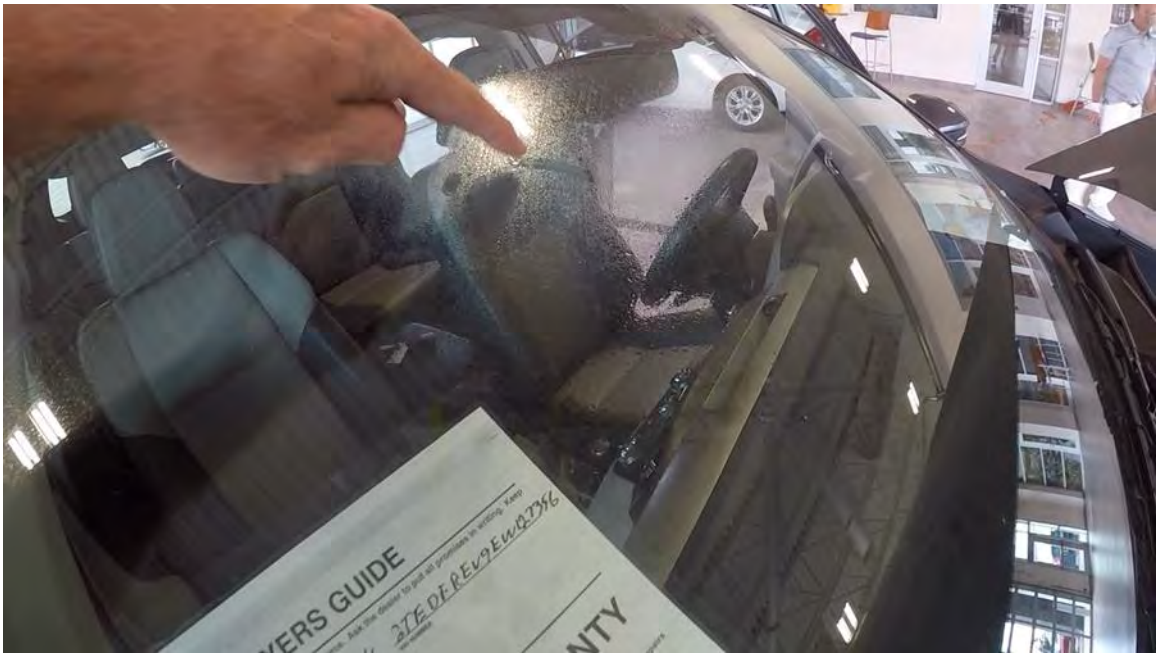
Vehicle Air Vent, Drivers Side

Vehicle HVAC System, Passenger Side in dash

Vehicle HVAC Filer Housing, Passenger Side in dash

Vehicle HVAC System Filter removed for analytical testing

Condensation in the exterior of the vehicle following A/C use by Mrs. Beckemeyer's expert



Condensation in the exterior of the vehicle following A/C use by Mrs. Beckemeyer's expert

Appendix 2

Sampling Data

STAT Analysis Corporation
2242 West Harrison St., Suite 200, Chicago, IL 60612-3766
Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com
Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

July 18, 2018

Jeremy Porter
16 Canyon Court
Yorkville, IL 60560
Telephone:
Fax:

Analytical Report for STAT Work Order: 18070498 Revision 0

RE: 1801, 2014 Toyota RAV 4, Lafayette, IN

Dear Jeremy Porter:

STAT Analysis received 8 samples for the referenced project on 7/13/2018 2:55:00 PM. The analytical results are presented in the following report.

Enclosed are the analytical results for the above referenced project. The samples were analyzed as per the enclosed chain of custody.

All analyses were performed in accordance with established microbiology methodology. All Quality Control criteria as specified in the methods have been met. QA/QC documentation and raw data will remain on file for future reference. Sample acceptance criteria has been met unless noted in the Case Narrative or Sample Receipt Checklist. If required, an estimate of uncertainty for the analyses can be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions about the enclosed materials, please contact me at (312) 733-0551.

Sincerely,

Albio Marquez
Senior Microscopist

STAT Analysis Corporation:
2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766
Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Analytical Report for Microbiological Analysis - Direct Examination

Client:	Jeremy Porter	Date/Time Received:	7/13/18 2:55 PM
Project ID:	1801, 2114 Toyota RAV 4,Lafayette,IN	Date Analyzed:	7/16/2018
STAT Project No.:	18070498	Analyzed By:	AM

Client Sample No.:	1 Cabin air fitter up stream	
Date Sampled:	7/9/2018	
Matrix:	Bulk	
STAT Sample No.:	18070498-001	
		Relative Abundance:
Identification:	*Tetraploa*	Low concentration
	Cladosporium	Low concentration
	Ascospore	Low concentration
	Alternaria	Low concentration
	Aspergillus/Penicillium	Low concentration

Client Sample No.:	2 Cabin air filter down stream	
Date Sampled:	7/9/2018	
Matrix:	Bulk	
STAT Sample No.:	18070498-002	
		Relative Abundance:
Identification:	*Ascospore*	Low concentration
	Cladosporium	Low concentration
	Smuts/Myxomycetes	Low concentration

Client Sample No.:	3 Floor passenger side	
Date Sampled:	7/9/2018	
Matrix:	Bulk	
STAT Sample No.:	18070498-003	
		Relative Abundance:
Identification:	*Aspergillus/Penicillium*	Low concentration
	Smuts/Myxomycetes	Low concentration

High concentration: greater than 75% spore cover/field of view
Moderate concentration: 25% to 75% spore cover/field of view
Low concentration: less than 25% spore cover/field of view

SOP 6210

STAT Analysis Corporation:
2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766
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Analytical Report for Microbiological Analysis - Direct Examination

Client:	Jeremy Porter	Date/Time Received:	7/13/18 2:55 PM
Project ID:	1801, 2114 Toyota RAV 4,Lafayette,IN	Date Analyzed:	7/16/2018
STAT Project No.:	18070498	Analyzed By:	AM

Client Sample No.:	4 Carpet drivers side	
Date Sampled:	7/9/2018	
Matrix:	Bulk	
STAT Sample No.:	18070498-004	
		Relative Abundance:
Identification:	*Ascospore*	Low concentration
	Cladosporium	Low concentration
	Basidiospore	Low concentration

Client Sample No.:	5 Air vent driver side	
Date Sampled:	7/9/2018	
Matrix:	Swab	
STAT Sample No.:	18070498-005	
		Relative Abundance:
Identification:	*Smuts/Myxomycetes*	Low concentration

Client Sample No.:	6 HVAC duct before filter	
Date Sampled:	7/9/2018	
Matrix:	Swab	
STAT Sample No.:	18070498-006	
		Relative Abundance:
Identification:	*Aspergillus/Penicillium*	Low concentration
	Smuts/Myxomycetes	Moderate concentration

High concentration: greater than 75% spore cover/field of view
Moderate concentration: 25% to 75% spore cover/field of view
Low concentration: less than 25% spore cover/field of view

SOP 6210

STAT Analysis Corporation:
2242 West Harrison St., Suite 200, Chicago, Illinois 60612-3766
Tel: 312.733.0551; Fax: 312.733.2386; e-mail address: STATinfo@STATAnalysis.com

Analytical Report for Microbiological Analysis - Direct Examination

Client:	Jeremy Porter	Date/Time Received:	7/13/18 2:55 PM
Project ID:	1801, 2114 Toyota RAV 4,Lafayette,IN	Date Analyzed:	7/16/2018
STAT Project No.:	18070498	Analyzed By:	AM

Client Sample No.:	7 HVAC duct after filter	
Date Sampled:	7/9/2018	
Matrix:	Swab	
STAT Sample No.:	18070498-007	
		Relative Abundance:
Identification:	*Cladosporium*	Low concentration
	Smuts/Myxomycetes	Moderate concentration

Client Sample No.:	8 Condensor coil	
Date Sampled:	7/9/2018	
Matrix:	Swab	
STAT Sample No.:	18070498-008	
		Relative Abundance:
Identification:	*Aspergillus/Penicillium*	Low concentration
	Smuts/Myxomycetes	Moderate concentration

High concentration: greater than 75% spore cover/field of view
Moderate concentration: 25% to 75% spore cover/field of view
Low concentration: less than 25% spore cover/field of view

SOP 6210

STAT Analysis Corporation
2242 West Harrison Street, Suite 200, Chicago, Illinois 60612 Phone: (312) 733-0551 Fax: (312) 733-2386
e-mail address: STATinfo@STATAnalysis.com

MICROBIOLOGY CHAIN OF CUSTODY RECORD Page : ____ of ____

Client:	Jeremy Porter	Office Use Only Below:	Turn Around Time: <1 ☐ 1 ☐ 2 ☐ 3 ☐ Visible: 6-10 ☐
Street Address:	16 Canyon Court	Work Order No.: 1807049 8	Other TAT: Date Due: Time Due:
City, State, Zip:	Yorkville IL 60560	Samples Acceptable: Yes ☐ No: ☐	Relinquished by: Date/Time: 7/13/18 3:55 pm
Phone:	630-670-7777	Analyzed By:	Received by: Date/Time: 5/13/18 14:55
Fax:		Date/Time:	Relinquished by: Date/Time:
e-mail/Alt. Fax:	jeremye.porter@gmail.com	Data File:	Received for lab by: Date/Time:
Project Number:	1801	QC By:	Relinquished by: Date/Time:
Project Name:	2014 Toyota RAV 4	Reported By (Initial/Date Time):	Received by: Date/Time:
Project Location:	Lafayette, IN	Verbal:	
Project Manager:	Jeremy Porter	Fax/e-mail:	
P.O. Number:	1801		

Client Sample Number/Description:	Date Taken	Time Taken	Volume (Liters)	Area Wiped (Units)^2	Laboratory Sample No.	Non-Viable:	Air Cassette	Direct Exam-Tape	Direct Exam-Swab	Direct Exam-Bulk	Viable:	Air Impact	Swab	Bulk	Other
1. Cabin Air Filter, Upstream	7/9/18	11:00 Am	N/A	N/A	001					X					
2. Cabin Air Filter, Downstream					002					X					
3. Floor Insulation, Passenger Side					003					X					
4. Carpet, Drivers Side					004					X					
5. Air vent, Drivers Side				1 inch^2	005				X						
6. HVAC Duct, Before Filter					006				X						
7. HVAC Duct, After Filter					007				X						
8. Condenser Coil					008				X						

Comments: _____

Appendix 3

Laboratory Qualifications

April 30, 2018

Laboratory ID: 101160

Sean Hayes
STAT Analysis Corporation
2242 West Harrison St. Suite 200
Chicago, IL 60612-3501

Dear Mr. Hayes:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved STAT Analysis Corporation as an accredited Industrial Hygiene, Environmental Lead and Environmental Microbiology laboratory.

Accreditation documentation includes the IHLAP, ELLAP and EMLAP accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP and EMLAP requirements *(see Policy Modules 2B, 2C, 2D, and 6)*, which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP and EMLAP.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

Cheryl O. Morton

Cheryl O. Morton
Managing Director

AIHA Laboratory Accreditation Programs, LLC
3141 Fairview Park Drive, Suite 777, Falls Church, VA 22042 USA
main +1 703-846-0736 *fax* +1 703-207-8558
Twitter: @AIHA_LAP_LLC

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

STAT Analysis Corporation
2242 West Harrison St. Suite 200, Chicago, IL 60612-3501

Laboratory ID: **101160**
Issue Date: 04/30/2018

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 04/01/2004

EMLAP Category	Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Fungal	Air - Culturable	SOP 6110	In-House: Analysis of Culturable Air Samples for Fungi
		SOP 6120	In-House: Analysis of Culturable Air Samples for Fungi
	Bulk - Culturable	SOP 6220	In-House: Analysis of Culturable Microbiological Swab and Bulk Samples
	Surface - Culturable	SOP 6220	In-House: Analysis of Culturable Microbiological Swab and Bulk Samples
	Air - Direct Examination	SOP 6110	In-House: Analysis of Spore Trap
	Bulk - Direct Examination	SOP 6210	In-House: Bulk Analysis
	Surface - Direct Examination	SOP 6210	In-House: Bulk Analysis

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

Effective: 03/12/2013
101160_Scope_EMLAP_2018_04_30
Page 1 of 1

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

STAT Analysis Corporation

2242 West Harrison St. Suite 200, Chicago, IL 60612-3501

Laboratory ID: 101160

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓ **INDUSTRIAL HYGIENE**	Accreditation Expires: May 01, 2020
✓ **ENVIRONMENTAL LEAD**	Accreditation Expires: May 01, 2020
✓ **ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: May 01, 2020
☐ **FOOD**	Accreditation Expires:
☐ **UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 16: 03/21/2018

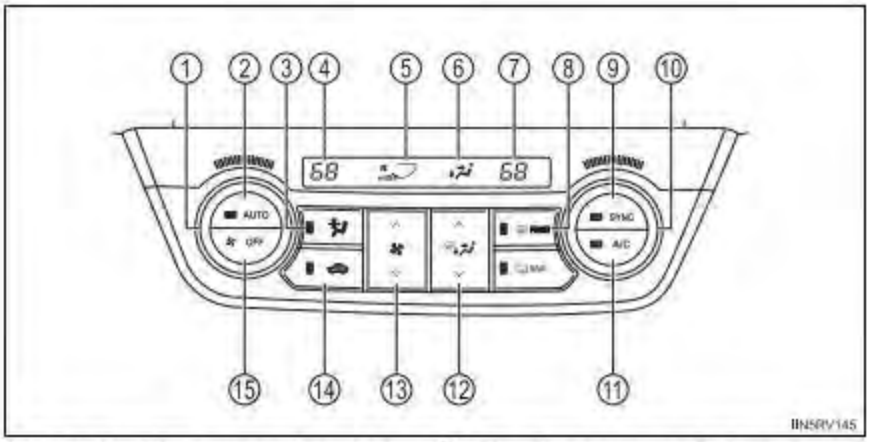
Date Issued: 04/30/2018

Appendix 4

Vehicle Manual Air Conditioning Section

Automatic air conditioning system*

Air outlets and fan speed are automatically adjusted according to the temperature setting.



① Driver's side temperature control dial
② Automatic mode button
③ Micro dust and pollen filter mode button
④ Driver's side temperature setting display
⑤ Fan speed display
⑥ Air outlet display
⑦ Passenger's side temperature setting display
⑧ Windshield defogger button
⑨ Simultaneous mode button
⑩ Passenger's side temperature control dial
⑪ Cooling and dehumidification function on/off button
⑫ Air outlet selector button
⑬ Fan speed control button
⑭ Outside air or recirculated air mode button
⑮ Off button

Using the automatic air conditioning system

1 Press AUTO.

The dehumidification function begins to operate. Air outlets and fan speed are automatically adjusted according to the temperature setting and humidity.

2 Turn  clockwise to increases the temperature and turn  counterclockwise to decreases the temperature.

The air conditioning system switches between individual and simultaneous modes each time SYNC is pressed.

Simultaneous mode (the indicator on SYNC is on):
The driver's side temperature control dial can be used to adjust the temperature for the driver's and passenger's side. At this time, operate the passenger's side temperature control dial to enter individual mode.

Individual mode (the indicator on SYNC is off):
The temperature for the driver's and passenger's side can be adjusted separately.

Automatic mode indicator

If the fan speed setting or air flow modes are operated, the automatic mode indicator goes off. However, automatic mode for functions other than that operated are maintained.

Adjusting the settings manually

1 To adjust the fan speed, press "∧" on  to increase the fan speed and "∨" to decrease the fan speed.
Press to turn the fan off.

2 To adjust the temperature setting, turn  clockwise to increases the temperature and turn  counterclockwise to decreases the temperature.
The air conditioning system switches between individual and simultaneous modes each time is pressed.
Simultaneous mode (the indicator on is on):
The driver's side temperature control dial can be used to adjust the temperature for the driver's and passenger's side. At this time, operate the passenger's side temperature control dial to enter individual mode.
Individual mode (the indicator on is off):
The temperature for the driver's and passenger's side can be adjusted separately.

3 To change the air outlets, press "∧" or "∨" on  .
The air outlets used are switched each time either side the button is pressed.

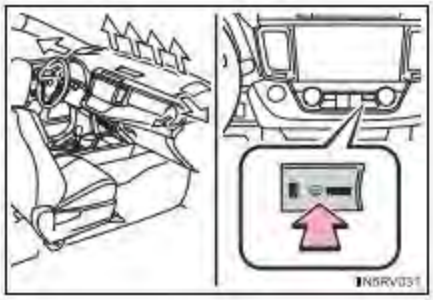
Defogging the windshield

Press .

The dehumidification function operates and fan speed increases. Set the outside/recirculated air mode button to outside air mode if the recirculated air mode is used. (It may switch automatically.)

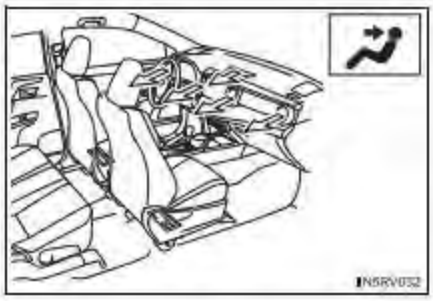
To defog the windshield and the side windows early, turn the air flow and temperature up.

To return to the previous mode, press again when the windshield is defogged.

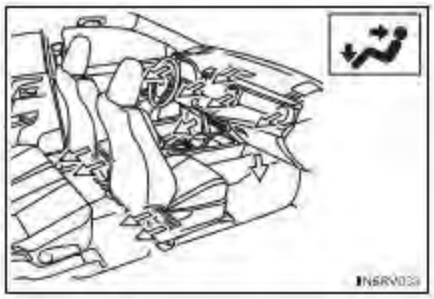


Air outlets and air flow

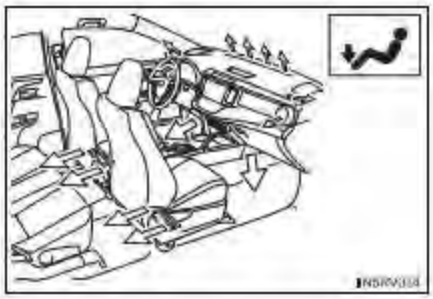
Upper body



Upper body and feet

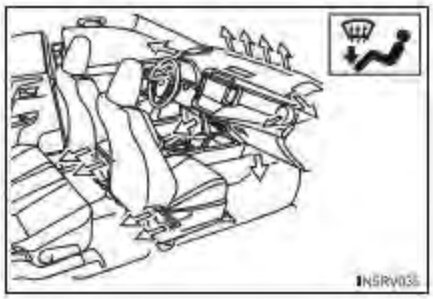


Feet



Feet and windshield

If the recirculated air mode is used, it will automatically switch to the outside air mode.



Switching between outside air and recirculated air modes

Press  .

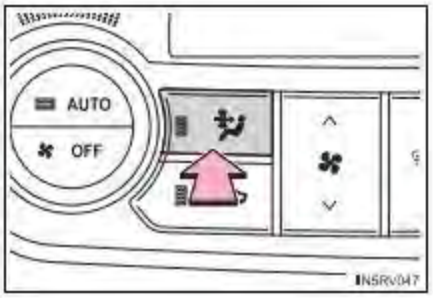
The mode switches between outside air mode (the indicator is off) and recirculated air mode (the indicator is on) each time is pressed.

Micro dust and pollen filter mode button

Operates micro dust and pollen filter mode on/off.

Outside air mode switches to recirculated air mode. Pollen is removed from the air and the air flows to the upper part of the body.

Usually the system will turn off automatically after approximately 3 minutes.



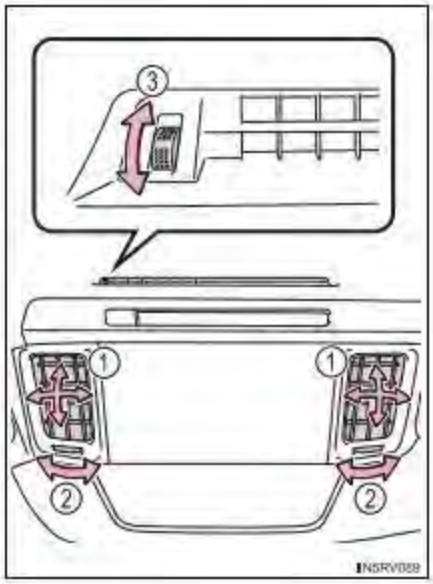
Adjusting the position of and opening and closing the air outlets

Front center outlets

① Direct air flow to the left or right, up or down.

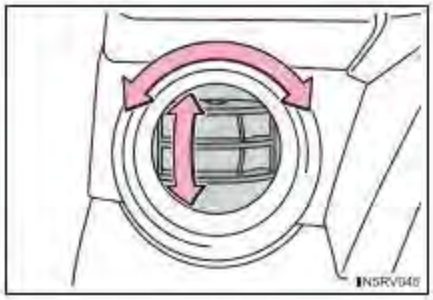
② Turn the knobs to open or close the vents.

③ Turn the knob to open or close the vent for rear seat occupants.



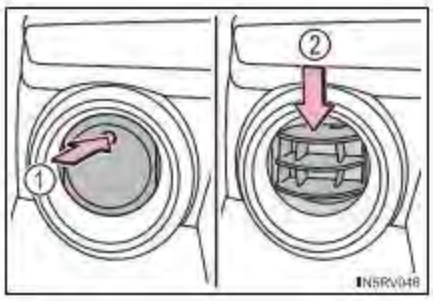
Front side outlets

Direct air flow to the left or right, up or down.



① Open the vent.

② Close the vent.



Operation of the air conditioning system in Eco drive mode

In Eco drive mode, the air conditioning system is controlled as follows to prioritize fuel efficiency:

- Engine speed and compressor operation controlled to restrict heating/cooling capacity
- Fan speed restricted when automatic mode is selected

To improve air conditioning performance, perform the following operations:

- Adjust the fan speed
- Turn off Eco drive mode (→P. 209)

Using automatic mode

Fan speed is adjusted automatically according to the temperature setting and the ambient conditions.
Therefore, the fan may stop for a while until warm or cool air is ready to flow immediately after AUTO is pressed.

Fogging up of the windows

- The windows will easily fog up when the humidity in the vehicle is high. Turning A/C on will dehumidify the air from the outlets and defog the windshield effectively.
- If you turn A/C off, the windows may fog up more easily.
- The windows may fog up if the recirculated air mode is used.

Outside/recirculated air mode

- When driving on dusty roads such as tunnels or in heavy traffic, set the outside/recirculated air mode button to the recirculated air mode. This is effective in preventing outside air from entering the vehicle interior. During cooling operation, setting the recirculated air mode will also cool the vehicle interior effectively.
- Outside/recirculated air mode may automatically switch depending on the temperature setting or the inside temperature.

When the outside temperature exceeds 75°F (24°C) and the air conditioning system is on

- In order to reduce the air conditioning power consumption, the air conditioning system may switch to recirculated air mode automatically. This may also reduce fuel consumption.
- Recirculated air mode is selected as a default mode when the engine switch is in the "ON" position (vehicles without a smart key system) or IGNITION ON mode (vehicles with a smart key system)
- It is possible to switch to outside air mode at any time by pressing  .

Micro dust and pollen filter

- In order to prevent the windshield from fogging up when the outside air is cold, the following may occur:
  - Outside air mode does not switch to recirculated air mode.
  - The dehumidification function operates.
  - The operation cancels after approximately 1 minute.
- In rainy weather, the windows may fog up. Press  .
- In extremely humid weather, the windows may fog up.
- The pollens are filtered out even if the micro dust and pollen filter is turned off.

When the outside temperature falls to nearly 32°F (0°C)

The dehumidification function may not operate even when  is pressed.

Air conditioning odors

- During use, various odors from inside and outside the vehicle may enter into and accumulate in the air conditioning system. This may then cause odor to be emitted from the vents.
- To reduce potential odors from occurring:
  - It is recommended that the air conditioning system be set to outside air mode prior to turning the vehicle off.
  - The start timing of the blower may be delayed for a short period of time immediately after the air conditioning system is started in automatic mode.

Air conditioning filter

→P. 564

Customization

Settings (e.g. outside/recirculated air mode) can be changed.
(Customizable features →P. 687)

CAUTION

To prevent the windshield from fogging up

Do not use during cool air operation in extremely humid weather. The difference between the temperature of the outside air and that of the windshield can cause the outer surface of the windshield to fog up, blocking your vision.

NOTICE

To prevent battery discharge

Do not leave the air conditioning system on longer than necessary when the engine is off.

Appendix 5

Service Records

Home TIS Service Lane PRS Robin Clark Dealer No : 12090 TOYOTA Help My Account Logout

Vehicle One-View Toolbox TCMC ASG ACE Knowledge Center Performance

VIN Search

Vehicle Identification Number Search

Enter a 17 Digit VIN below to search for applicable information:

VIN: 2T3DFREV9EW127356 Clear Lookup

2014 RAV4 LIMITED (4452) L4 - 2AR-FE, 6AT/4WD, 01G3-MAGNETIC GRAY METALLIC [2T3DFREV9EW127356] - Fleet Vehicle

Vehicle Info Specifications Warranty

Prod Date: 12/05/2013 **Date of First Use:** 12/19/2013 **Engine Oil Type:** Synthetic **Trans/Drive:** 6AT/4WD

Plant Code: W - WOODSTOCK - TMMCW **Original Selling Dealer:** HEADQUARTE (09163) **Engine Oil:** 0W-20 4.6 qt. (4.4 lt.) **Trans Oil:** Info not available

Grade: LIMITED (4452) **Color:** 01G3-MAGNETIC GRAY METALLIC/EA10-ASH **Engine Family:** L4 - 2AR-FE **VIN Destination:** USA

Remote Capable: Info not available **Remote Opted In:** Info not available **Engine #:** 2AR M546546 **Monroney:** Info not available

Next Service Apt:07/13/2017 Flat Rate Manual Standard Equipment +

Service Connect

Diagnostics Capable: Info not available **Diagnostics Opted In:** Info not available **Transmitting:** Info not available **Preferred Dealer:** Info not available

C1: Cargo Mat **C4:** Carpeted Floor Mats **CF:** Carpet Floor Mats/Cargo Mat **FE:** 50 State Emissions **H1:** Commercial Program Incentive Less Fuel **HB:** Fleet Credit **NS:** COURTESY DELIVERY VEHICLE

Campaign Service History ToyotaCare Warranty FS Products Roadside Assistance Telematics DTC History Diagnostic Report Customer Survey

Warranty NSH Format For Print **Filter :** All Collapse All [-] Expand All [+]

Customer Pay	Warranty Paid	Internal (DEALER) Pay	Goodwill	Total Amount
$0	$0	$0	$0	$0

All Service History is shown. To only see the last three (3) years, click here

RO Close	Source	Mileage	Dealer	RO Number	RO Total	RO Open	Service Advisor
04/04/2017	NSH	60454	JOSEPH CI (34089)	0698819	$0	03/28/2017	PACK,BILLY

Condition: 1- Op Code: 30TOZBODY **Pay Type:** CUSTOMER PAY

Op Code Desc: BODY LABOR ~|~REPLACE FT COVER RT FENDER ~|~

Claim #:

Part Qty: 1 **Part #:** 521190R911 **Part Desc:** COVER, FR BUMPER
Part Qty: 1 **Part #:** 521120R030 **Part Desc:** EXTENSION, FR BUMPER
Part Qty: 1 **Part #:** 524110R020 **Part Desc:** GUARD, FR BUMPER
Part Qty: 1 **Part #:** 526140R030 **Part Desc:** ABSORBER, FR BUMPER
Part Qty: 1 **Part #:** 811100R042 **Part Desc:** HEADLAMP ASSY, RH
Part Qty: 1 **Part #:** 812100R020 **Part Desc:** LAMP ASSY, FOG, RH
Part Qty: 1 **Part #:** 538010R070 **Part Desc:** FENDER SUB-ASSY, FR
Part Qty: 1 **Part #:** 5380342020 **Part Desc:** BRACKET SUB-ASSY, FR
Part Qty: 1 **Part #:** 853150R030 **Part Desc:** JAR, WASHER, A
Part Qty: 1 **Part #:** 85397AA040 **Part Desc:** SWITCHASSY,LVLWRNGKT

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 2- Op Code: 30TOZPAINT **Pay Type:** CUSTOMER PAY

Op Code Desc: PAINT LABOR ~|~REFINISH FT COVER RT FENDER ~|~

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

RO Close	Source	Mileage	Dealer	RO Number	RO Total	RO Open	Service Advisor
07/09/2016	NSH	47581	PERFORMANC (34044)	0615520	$0	07/02/2016	HOEHN,NATHAN

Condition: 1- Op Code: CR **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES:SUBLET OUT FOR D ETAIL ~|~ ~|~

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt

0.0	$0	$0	$0	$0	$0	$0

Condition: 2- Op Code: 13CP **Pay Type:** CUSTOMER PAY

Op Code Desc: PERFORM COMPLIMENTARY SAFE AND D EPENDABLE DRIVING INSPECTION ~|~MPI TO ASSIST IN KEEPING OUR CUSTOMER SAFE AND SECURE ~|~COMPLETED COMPLIMENTARY SAFE AND DEPENDABLE DRIVING INSPECTIO N SEE ATTACHED SHEET

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

RO Close	Source	Mileage	Dealer	RO Number	RO Total	RO Open	Service Advisor
06/30/2016	NSH	47579	PERFORMANC (34044)	0614513	$0	06/23/2016	HOEHN,NATHAN

Condition: 1- Op Code: MISC **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES INSPECT FOR MISC ELLANEOUS CONCERN - *CUSTOMER ST ATES, INTERIOR LEAK, FROM PASSEN GER VISOR, NEEDS TO BE FIXED. ~|~ ~|~FLEET NUMBER 313670 UNIT# 2014023 AUTH#BMP44593

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 2- Op Code: BRKINSP **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES INSPECT BRAKES - *CUSTOMER STATES, BRAKE INSPECT ION, CUSTOMER THINKS IT MAY NEED NEW BRAKES, NEED TO DO THE INSP ECTION FIRST./BRAKES ARE SQUEEKI NG AND IT TAKES TO LONG TO STOP ~|~ ~|~REPLACED REAR PADS AND MACHIN E ROTORS

Claim #: **Part Qty:** 1 **Part #:** 0446642060 **Part Desc:** PAD KIT, DISC BRAKE

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 3- Op Code: LOF24S **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES PERFORM EXPRESS OIL AND FILTER CHANGE WITH SYNTH ETIC SOIL1 OIL EVERYDAY LOW VA LUE PRICED $24.95 PLUS TAX AND S HOP SUPPLIES TOTAL $28.78 INCLUD ES UP TO 5 QUARTS OF OIL AND FIL TER MULTI- POINT INSPECTION TOP OFF FLUID LEVELS INCLUDES PERFOR MANCE CARE ~|~CHANGE OIL & FILTER ~|~PERFORMED EXPRESS OIL AND FIL TER EVERYDAY LOW VALUE PRICED $ 24.95 PLUS TAX AND SHOP SUPPLIES TOTAL $28.78 INCLUDES UP TO 5 Q UARTS OF OIL AND FILTER MULTI -P OINT INSPECTION TOP OFF FLUID LE VELS INCLUDES PERFORMANCE CARE

Claim #: **Part Qty:** 1 **Part #:** SOIL1 **Part Desc:** 0W20 MOTOR OIL
Part Qty: 1 **Part #:** 9043012031 **Part Desc:** GASKET
Part Qty: 1 **Part #:** 04152YZZA1 **Part Desc:** REPLACEABLE ELEMENT

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 4- Op Code: CW **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER REQUEST CAR WASH $5.95 VALUE FREE WITH THIS PURCHASE(NO T RECOMENDED ON DAYS WHEN TEMPER ATURES ARE BELOW 30 DEGREES) ~|~ ~|~COMPLETED CAR WASH

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 5- Op Code: FMOK **Pay Type:** CUSTOMER PAY

Op Code Desc: INSPECT DRIVER'S SIDE FLOOR MAT : NEVER DOUBLE STACK MATS. PROPER MAT INSTALLED? INSTALL ON LY SPECIFIED MATS 3)MAT SECURED PROPERLY? MATS SEC URED BY FACTORY RETENTION DEVICE (CLIP OR GR OMMET STYLE). ~|~CUSTOMER COURTESY ~|~FACTORY FLOOR MATS PROPERLY I NSTALLED AT THIS TIME

Claim #: **Part Qty:** 1 **Part #:** 9006833173 **Part Desc:** TUBE, RUBBER
Part Qty: 1 **Part #:** 8532128020 **Part Desc:** VALVE, WASHER
Part Qty: 1 **Part #:** 9006833038 **Part Desc:** TUBE, RUBBER

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 6- Op Code: CW **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER REQUEST CAR WASH $5.95 VALUE FREE WITH THIS PURCHASE(NO T RECOMENDED ON DAYS WHEN TEMPER ATURES ARE BELOW 30 DEGREES) ~|~ ~|~COMPLETED CAR WASH

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 7- Op Code: CR **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES:VIBRATION COMING FROM REAR OF VEHICLE AND IT MAK ES A NOISE ~|~ ~|~

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 8- Op Code: 13CP **Pay Type:** CUSTOMER PAY

Op Code Desc: PERFORM COMPLIMENTARY SAFE AND D EPENDABLE DRIVING INSPECTION ~|~MPI TO ASSIST IN KEEPING OUR CUSTOMER SAFE AND SECURE ~|~COMPLETED COMPLIMENTARY SAFE AND DEPENDABLE DRIVING INSPECTIO N SEE ATTACHED SHEET

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 9- Op Code: CAF **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES REPLACE CABIN AI R FILTER CLEAN INSIDE OF CABIN A IR FILTER HOUSING PERFORMANCE VA LUE PRICE CABIN AIR FILTER REPLA CEMENT $49.95 ~|~REPLACED CABIN AIR FILTER ~|~REPLACED FILTER CLEAN INSIDE OF CABIN AIR FILTER HOUSING

Claim #: **Part Qty:** 1 **Part #:** 87139YZZ20 **Part Desc:** ELEMENT, AIR REFINER

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 10- Op Code: AF **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES REPLACED ENGINE AIR FILTER CLEAN INSIDE OF FILT ER HOUSING PERFORMANCE VALUE PRI CED @$39.95+TAX AND SHOP SUPPLI ES ~|~REPLACED AIR FILTER ~|~REPLACED FILTER CLEAN INSIDE OF FILTER HOUSING

Claim #: **Part Qty:** 1 **Part #:** 17801YZZ10 **Part Desc:** ELEMENT SUB-ASSY, AI

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 11- Op Code: BSF **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES: PERFORM BG 8503 2 BRAKE SYSTEM FLUSH, EXCHANGE A LL BRAKE FLUID AND BLEED LINES. $129.95 +TAX AND SHOP SUPPLIES $ 146.84 TOTAL ~|~ ~|~COMPLETED BRAKE SYSTEM FLUSH

Claim #: **Part Qty:** 1 **Part #:** 85032 **Part Desc:** BRAKE FLUID FLUSH

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 12- Op Code: TBS **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES PERFORM INTAKE MANIFOLD INDUCTION CLEANING TO C LEAN THROTTLE BODY, INTAKE MANIF OLD, DECARBON INTAKE VALVES AND TOPS OF PISTONS INSTALL FUEL ADD ITIVE TO CLEAN INJECTORS. INSTAL LED (2) 206 AND (1) 208 BG INDUC TION ADDITIVES PERFORMANCE VALU E PRICED $119.95 PLUS TAX AND SH OP SUPPLIES $133.69 TOTAL ~|~REMOVE INTAKE DEPOSITS ~|~REMOVE AND CLEAN CARBON BUILD UP IN THROTTLE BODY, INTAKE , V ALVES

Claim #: **Part Qty:** 1 **Part #:** 2036 **Part Desc:** BG INDUCTION KIT

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 13- Op Code: ACF **Pay Type:** CUSTOMER PAY

Op Code Desc: CUSTOMER STATES FLUSH HVAC EVAPO RATOR AND TREAT HEATER DUCT WORK $119.95 PLUS TAX AND SHOP SUPPL IES $133.82 ~|~ ~|~COMPLETED HVAC EVAPORATOR FLU SH SERVICE & DUCT WORK

Claim #: **Part Qty:** 1 **Part #:** 00289ACRKT **Part Desc:** AC REFRESHER KIT

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

RO Close	Source	Mileage	Dealer	RO Number	RO Total	RO Open	Service Advisor
03/11/2016	NSH	46434	TANSKY SAW (34025)	0191119	$0	03/04/2016	SUMMERTON,MOLLY

Condition: 1- Op Code: S1 **Pay Type:** CUSTOMER PAY

Op Code Desc: REPLACED RADIO , GE FLEET SERVICES TO PAY , FAX INVOICE TO 1 855 206 6051 ~|~CUSTOMER STATES THAT DISC IS IN CD PLAYER AND WILL NOT EJECT , NAV SCREEN KEEPS RESETTING AND IS STUCK ON BLANK SCREEEN ~|~BODY ELECTRICAL ~|~46434 300 REPLACED THE RADIO WAS UNABLE TO RETRIEVE THE DISK OUT OF THE RADIO

Claim #: **Part Qty:** 1 **Part #:** VX861000R060 **Part Desc:** RADIO

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 2- Op Code: MPI **Pay Type:** CUSTOMER PAY

Op Code Desc: COMPLETED COMPLIMENTARY MULTI POINT INSPECTION ~|~COMPLETED COMPLIMENTARY MULTI POINT INSPECTION ~|~COMPLIMENTARY MULTI POINT INSPECTION ~|~46434 COMPLETED 27 POINT, MULTI-POINT INSPECTION AS REQUESTED FROM ABOVE

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

Condition: 3- Op Code: FM **Pay Type:** CUSTOMER PAY

Op Code Desc: CHECK DRIVERS SIDE FRONT FLOOR MAT FOR INTERFERENCE ~|~CHECK DRIVERS SIDE FRONT FLOOR MAT FOR INTERFERENCE ~|~ ~|~46434 OK

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

RO Close	Source	Mileage	Dealer	RO Number	Amount	Claim #	Pay Type
03/10/2016	WARRANTY	46434	MOTOR SALE (82430)	191119	$0	618080	WARRANTY PAID

Claim #: 618080 **Part #:** CUSTMSATIS **Part Desc:** CR NON-WARRANTY CLM **Replaced Part:** Y **Goodwill Indicator:** Y

Op Code: CRP997 **Repair:** GOODWILL PART

T1: 99 **T2:** 99 **T3:**

Condition Desc: CUSTOMER DISSATISFIED

Cause Desc: INTEREST OF CUSTOMER SATISFACTION

Remedy Desc: REIMBURSED CUSTOMER FOR REPAIRS

RO Close	Source	Mileage	Dealer	RO Number	RO Total	RO Open	Service Advisor
12/17/2013	NSH	11	DAYTON (29101)	0226972	$0	12/17/2013	CHANDLER,KEITH

Condition: 1- Op Code: 49 **Pay Type:** INTERNAL (DEALER) PAY

Op Code Desc: PREP FOR DELIVERY ~|~PREP FOR DELIVERY ~|~

No Part Info Available

Technician	Hours	Labor	Parts	Sublet	Fluids	Body Shop	Total Condition Amt
	0.0	$0	$0	$0	$0	$0	$0

[Hide Older NSH Data]

Note: All information presented herein is based on data available at the time of posting, is subject to change without notice and pertains specifically to mainland U.S.A. vehicles only.

Appendix 6

Mold Types

Mold Types

The following types of mold spore were detected in microscopic quantities. Type are included from Mr. Rucker's report as well as my own. Under each type is information on distribution, where it is found and mode of dissemination.

Acremonium
Ubiquitous; cosmopolitan
Soil, dead organic debris, hay, food stuffs.
Wet spore. Insect/water droplet. Wind (old growth)

Alternaria
Ubiquitous; cosmopolitan
Soil, dead organic debris, on food stuffs and textiles. Plant pathogen, most commonly on weakened plants.
Dry spore. Wind

Ascospores
Ubiquitous; cosmopolitan
Found everywhere in nature.
Spores are predominantly forcibly discharged during periods of high humidity or rain

Aspergillus/Penicillium
Ubiquitous; cosmopolitan
Soil, decaying plant debris, compost piles, stored grain.
Dry spore. Wind, insects (fungus serves as a food source for storage mites)

Aureobasidium
Ubiquitous; cosmopolitan
Soil, forest soils, fresh water, aerial portion of plants, fruit, marine estuary sediments, wood. Wet spore. Wind (when dried out), water droplet.

Basidiomycetes
Ubiquitous; cosmopolitan
Gardens, forests, woodlands.
Wind; spore release (active mechanism) during periods of high humidity or rain

Basidiospores
Ubiquitous; cosmopolitan
Gardens, forests, woodlands.
Wind; spore release (active mechanism) during periods of high humidity or rain.

Chaetomium

Ubiquitous; cosmopolitan
Soil, seeds, cellulose substrates, dung, woody and straw materials.
Spores are formed inside fruiting bodies. Spores are forced out an opening and spread by wind, insects, water splash

Cladosporium
Ubiquitous; cosmopolitan
Soil of many different types, plant litter, plant pathogen, leaf surfaces, old or decayed plants.
Dry spore (formed in very fragile chains, easily dispersed). Wind.

Epicoccum
Ubiquitous; cosmopolitan
Plant debris, soil. Secondary invader of damaged plant tissue.
Dry spore. Wind. Spores also released by hygroscopic movement.

Myxomycetes
Ubiquitous; cosmopolitan
Decaying logs, stumps and dead leaves, particularly in forested regions.
These organisms have both dry and wet spores.

Penicillium
Ubiquitous; cosmopolitan
Soil, decaying plant debris, compost piles, fruit rot.
Dry spore. Wind, insects (fungus serves as a food source for storage mites).

Pithomyces
Ubiquitous; cosmopolitan
Common on dead leaves of more than 50 different plants, especially leaf fodders. Soil, grasses.
Dry spore. Wind.

Rhodotorula
Ubiquitous; cosmopolitan
Soil, water, milk, fruit juice
Dry spore. Wind.

Smuts, Periconia, Myxomycetes
Ubiquitous; cosmopolitan
On cereal crops, grasses, weeds, other fungi, and on other flowering plants.
Dry spore. Wind.

Smuts/Myxomycetes

Ubiquitous; cosmopolitan

On cereal crops, grasses, weeds, other fungi, and on other flowering plants.

Dry spore. Wind.

Tetraploa

Ubiquitous; cosmopolitan

Natural habitat includes leaf bases and stems just above the soil on many kinds of plants and trees.

Wind disperses the dry fruiting body spores, whereas the wet amoebic phase is motile.

Source: www.emlab.com/resources/fungal-library/

Appendix 6

CV Jeremy Porter

Curriculum Vitae

Jeremy E. Porter, PMP®

Independent Expert Witness specializing in
Asbestos, Lead and Mold Remediation Exposures

Professional Qualifications

Project Management Professional Certification (2013)
Licensed Asbestos Contractor/ Supervisor (2015)
Licensed Lead Contractor/ Supervisor (1995)
Mold Mitigation Training (2005)
Nuclear Employee Initial Training (2008)
Nuclear General Employee Training (2008)
OSHA 10 Certified (2003)
OSHA 30 Certified (2011)

Areas of Expertise:

Mr. Porter has an extensive understanding of the means and methods used to mitigate mold as well as an in-depth background and understanding of mold growth and the conditions causing such occurrences. Mr. Porter's background is a unique blend of actual field experience in the application and removal of mold followed by extensive management of employees performing these tasks. Mr. Porter further possess an in-depth knowledge of mold related exposure and associated risks. Mr. Porter's experience includes an extensive range of project types including residential, commercial, industrial, manufacturing, education, healthcare, fossil power and nuclear power. Mr. Porter is also familiar with legal proceedings and has a solid foundation and understanding of the principals of civil litigation including experience testifying.

Case History

- Smith v. Polley for John and Kim Polley represented by Williams Montgomery & John Ltd.

Work Experience

- 27 years Construction Experience
- 27 years Asbestos Abatement Experience
- 22 years Lead Abatement Experience
- 22 years Interior Demolition Experience
- 22 years Mold Abatement Experience
- 7 years Nuclear Services Experience

- 7 Years Thermal Insulation Experience

Employment History

- 2015 – 2018: Operations Manger The Luse Companies/ SC

Duties include oversight of two company division engaged in insulation, asbestos, lead and mold remediation work and specialty construction services.

- 2008 -2015: Nuclear Services Manager Luse Thermal Technologies

Duties included field oversight and planning for a group of employees engaged in all aspects of insulation installation, asbestos abatement work and firestop services in the nuclear power generation sector.

- 2003-2008: General Manager, The Luse Companies

Duties included oversight of a group of employees estimating and managing all aspects of insulation and asbestos abatement work.

- 2001-2003: General Manager Environmental Services of Illinois

Duties included oversight of a group of employees estimating and managing all aspects of insulation and asbestos abatement work.

- 1999-2001: Estimator/ Project Manager Specialty Systems of Illinois

Duties included estimating and managing all aspects of asbestos, lead and mold remediation work

- 1998-1999: Estimator/ Project Manager LVI Services

Duties included estimating and managing all aspects of insulation, asbestos, lead and mold remediation work.

- 1995-1997: Abatement Worker/ Supervisor Champion Environmental Services

Duties included performing hands on insulation and asbestos, lead and mold removal.

Additional Information:

- Mr. Porter has experience in the causes and effects of mold growth in all types of environments. Work has included projects relating to acute water events as well as chronic situations relating to poor indoor air quality typically resulting from high humidity over extended periods of time.

- Mr. Porter has experience in forensic exposure. Determining exposures based on evidence and conditions at the time or over the period of the alleged incident.

- Mr. Porter has a technical background. An understanding of principles or operation of systems and functions that would lead to or minimize exposure of airborne toxins.

EXPERT WITNESS REPORT

MELANIE BECKEMEYER

vs.

GELCO CORPORATION, ETC.

Case No. 1:17-CV-00695-MRB

Prepared by:

Jeremy Porter, PMP

16 Canyon Court

Yorkville, IL 60560

Report prepared for Ritzler, Coughlin & Paglia, Ltd.

Subject: Mold/ Bacteria growth in 2014 Toyota RAV4

VIN 2T3DFREV9EW127356

Supplement #1

Based on information and documents recently provided and reviewed pursuant to the deposition of Steven Russel, it is necessary that I supplement my report. I hereby supplement the report as follows:

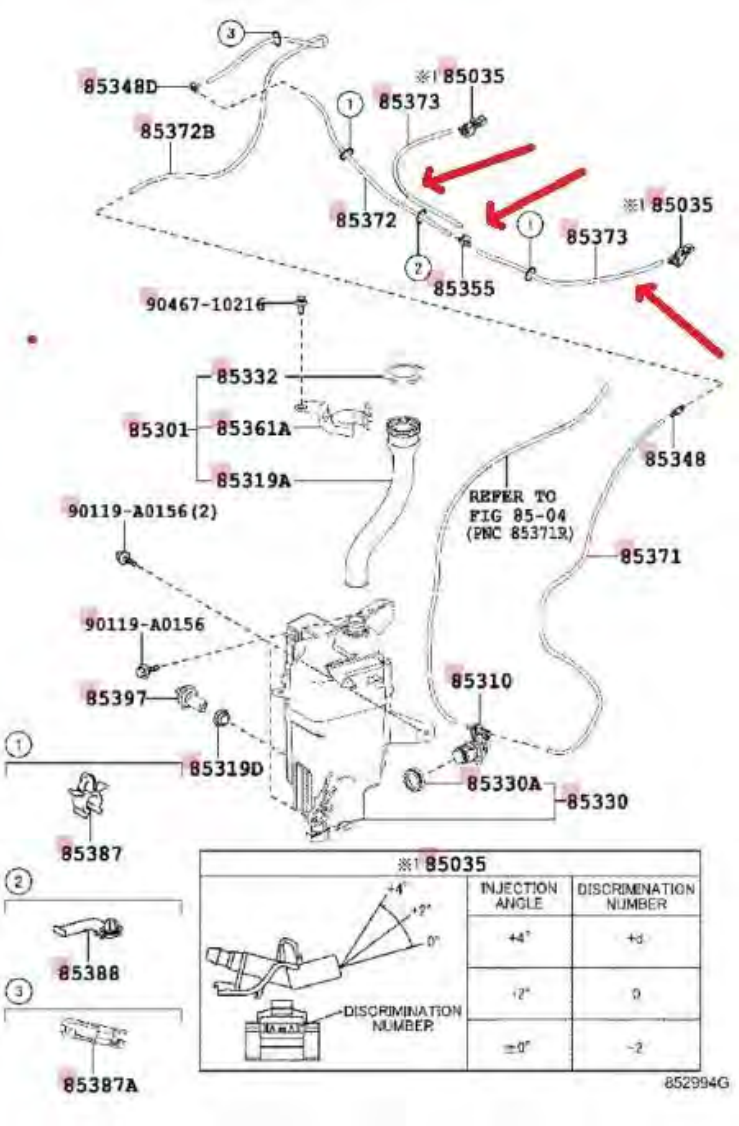
On page 25 of this report I state: "*The Gelco record indicates "washer line that runs thru roof has been chewed, replace, washer valve and 2 rubber tube mouse damage", however this does not appear to have been done according to the dealership service records. This note probably relates to a discussion on what could potentially be causing the roof leak. This assumption is based in on the vehicle inspection, no mouse or water damage was observed. (See inspection details.) The Toyota Dealership services records. (See service records.) Mrs. Beckemeyer's testimony that she never observed any leaks for the entire duration of vehicle use."

This assumption was based on the appearance from the service records that no replacement washer fluid tubing was installed in the subject RAV4. Mr. Russel's testimony indicates the parts replaced were incorrectly assigned to a line item #5 relating to the inspection of the vehicle floor mats, instead of line item #1 relating to the alleged leak.

Based on this information, I do believe that the dealership replaced washer fluid lines in the subject vehicle. According to the part numbers, there were 2 rubber tubes and 1 washer valve was replaced. These components are located in the engine compartment of the vehicle and not at all associated with the line that runs to the rear window of the vehicle. It is therefore impossible that these components contributed in any way to fluid entering the vehicle near the passenger sun visor.

This amendment is for clarification purposes This information does not change or modify any of the opinions stated in the report.

Signature
4/12/2019



RAV4 Front Window Fluid Component Diagram, red arrows added to indicate the parts replaced.

Source: https://parts.toyota.com/a/Toyota_2017_RAV4/62972068__6712503/WINDSHIELD-WASHER/665420-8503.html